2019

His Majesty's Ship Saphire and the Royal Navy in 17th-Century Newfoundland

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A Dissertation presented to the Graduate Faculty
of The College of William & Mary in Candidacy for the Degree of
Doctor of Philosophy

Department of Anthropology

College of William & Mary
May 2019

APPROVAL PAGE

This Dissertation is submitted in partial fulfillment of
the requirements for the degree of

Doctor of Philosophy

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Approved by the Committee, May 2019

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ABSTRACT

The English fifth-rate frigate *Saphire* was set on fire by its commander in Newfoundland during an attack by a French squadron in September 1696. Prior to its untimely sinking, this small warship had served the Royal Navy for over two decades, primarily in the Mediterranean, acting as convoy and escort to English shipping. This study combines multiple lines of evidence, including archaeology and material culture recovered from the wreck and contemporary documents, art, and illustrations, to explore the significance of the *Saphire* through a series of multi-scalar and diachronic interpretive lenses, while employing a multi-disciplinary methodology informed by social theory to orient the ship in its social and historical context.

The first lens considers the *Saphire* at the broadest level, as an entangled tool of the Royal Navy built and operated at great cost to advance the imperial ambitions of England's Stuart rulers in the late 17th century. Contemporary records allow the formulation of an object itinerary for this small warship from its launching in 1675 to its loss in 1696, situated against the backdrop of the major political, military and social events of 17th-century England. Although the ship was not fully excavated, available archaeological information, naval correspondence and contemporary images also illuminate the material processes of constructing, outfitting, operating and maintaining the *Saphire* as a complex technological artifact.

The second lens focuses on the significance of the *Saphire* at the regional level by examining the social and economic relationships between naval personnel and the settlers and fishers of Newfoundland in the late 17th century. At that time, naval commanders played a role not only in defense, but also in government and judicial affairs of the island. A comparison of material culture recovered from the *Saphire* with the archaeological record of settlements such as Ferryland illustrates how seaborne trade led to an increasingly globalized material culture that represents a growing consumerism.

The third lens examines social relationships and daily life on a small warship in the late 17th century through the material culture from the wreck and contemporary documents. It looks at how naval hierarchy was established, expressed and contested. The concept of assemblages of practice is used to better understand how the artifacts recovered from the wreck reflect the *habitus* of the daily lives of 17th-century seamen.

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ACKNOWLEDGEMENTS

I am indebted to all of the faculty of the Department of Anthropology at the College of William & Mary for broadening my understanding of anthropological approaches to historical archaeology. I especially thank Dr. Marley R. Brown III, Dr. Neil L. Norman, Dr. Kathleen Bragdon, and Dr. Barry Gaulton (Memorial University of Newfoundland) for their support as members of my dissertation committee. I am grateful to Dr. Frederick Smith for early input into this project. Many thanks to Kerry Murphy for her help in handling administrative requirements.

The wreck of the *Saphire* was first investigated by the Newfoundland Marine Archaeology Society, and all subsequent work on the site owes its origins to the work of that dedicated group of volunteers to protect and document the site. I am grateful to Elaine Anton, Collections Manager for Archaeology and Ethnology, and Kevin McAleese, Curator of Archaeology and Ethnology, at The Rooms in Newfoundland for facilitating access to the collection of artifacts from the *Saphire* held at the provincial museum. The staff of the Provincial Archaeology Office of the Government of Newfoundland and Labrador provided access to site records and reports. Neil Burgess of the Shipwreck Preservation Society of Newfoundland and Labrador generously shared information and recent photos of the site. Lori White and Tim Rast offered hospitality in St. John's and steadfast friendship over many years. Don Drew and Don Beaubier of Bay Bulls provided enthusiastic support and copies of a number of archival documents related to the *Saphire*. I hope that this research will be of interest to the community as they work towards enhancing local interpretation of the wreck in Bay Bulls.

A big thank you to Marc-André Bernier of Parks Canada for proposing the *Saphire* as a dissertation topic. Much of the archaeological evidence regarding the *Saphire* is the result of work undertaken in the late 1970s by Parks Canada's underwater archaeologists under the leadership of Robert Grenier and by members of the agency's material culture research team. I would also like to thank Mary Lou Doyle and Ellen Bertrand of Parks Canada for supporting a leave of absence from my position with the Heritage Conservation Branch to complete this dissertation.

Vanessa Smith, Assistant Curator of Archaeology at the Nova Scotia Museum, generously supplied information about material culture from the *Feversham.* Early in this research project, Colin Martin of St. Andrew's University generously shared information about the wreck of the *Dartmouth* and David H. Caldwell, Keeper of the National Museums Scotland, facilitated a visit to that collection. This project has also benefitted significantly from the ongoing work of staff and volunteers at the National Archives in Kew Gardens

and the National Maritime Museum in Greenwich, while librarians from Parks Canada and the College of William & Mary helped track down obscure references.

I have been fortunate to enjoy many interesting discussions with my fellow graduate students at the College of William & Mary over the years. I feel particularly lucky to have had the support and friendship of Shannon Mahoney, Katie Sikes and Mark Kostro.

Finally, my warmest thanks to my family, and especially to my mother and to Marcadam, for their love and patience as I completed this work.

In memory of Dr. Peter E. Pope

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CHAPTER 1: INTRODUCTION

Prologue

Captain Thomas Cleasby had a difficult decision to make.[1] He found himself, his men and his ship, quite literally, between a rock and a hard place: on one side, they faced an uncertain escape, clambering across the rocky landscape of the Avalon Peninsula to seek refuge with the planters in Ferryland, and on the other, a fleet of well-armed and bellicose French vessels intent on wreaking havoc on the English fishery and settlements and taking their ships as prizes, with a Royal Navy frigate as the ultimate trophy.

As Commander of his Majesty's ship the *Saphire*, Cleasby was responsible not only for the wellbeing of the officers and mariners who had sailed from Waterford to Newfoundland with him in early April, but also for protecting the lives and livelihoods of the planters, merchants and migrant fisherfolk scattered in the small bays and harbours of the Avalon Peninsula. He knew the coast of the English Shore intimately, having spent the past four months cruising its length from Trepassey in the south to as far as Bonavista in the north. When time and duty allowed, the *Saphire* stopped in at Capelin Bay, Ferryland and other settlements to remind the inhabitants of the Royal Navy's presence, to share news, to settle disputes, and to engage in some small scale trade.

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[1] While conjectural, this narrative is based on contemporary first- and second-hand accounts of events that occurred in 1696.

Word had passed over the course of the summer of the French designs to attack the English Shore from Placentia, and precautions had been taken to reinforce the fortifications at St. John's, Ferryland and Bay Bulls. Two days before, Cleasby had been patrolling the waters off Cape Race when his master spotted six sail in the distance, coming from the direction of Placentia. Observing that one of the vessels was a warship, Cleasby turned to sail north to St. John's to warn the inhabitants and the fishing and merchant fleets. He soon realized he would never be able to outsail the larger French ships, and so he turned the *Saphire* into Bay Bulls to seek shelter in the fortified harbour. Cleasby watched as the French fleet sailed past Bay Bulls, intent on St. John's. His relief turned to alarm when two of the French ships broke away from the squadron and turned back towards Bay Bulls. Luckily, the winds were on Cleasby's side, blocking the French ships from entering the harbour.

For two days, Cleasby watched as the two French vessels hovered menacingly near the harbour's entrance, waiting for their opportunity to enter. Trapped in the harbour, Cleasby and his men had joined with the handful of planter families of Bay Bulls and with several hundred seamen from merchant vessels also trapped in the harbour, and prepared to fend off the French attack. Cleasby ordered the smaller iron guns to be taken off the *Saphire* and placed in the small fortifications that overlooked Bay Bulls.

That morning, the winds had finally changed and the entire French fleet, now reunited, had entered Bay Bulls. The combined English naval and

civilian forces fired on the ships as best they could from their improvised fortifications, but they soon admitted that they were vastly outnumbered. Things began to look increasingly hopeless, and many of the civilians started off overland towards Ferryland in search of safety.

Cleasby hoped to hold off the French for long enough that Captain William Eyton in the *Saudadoes Prize* might mobilize some of the well armed merchant ships in the harbour at St. John's to come to their relief. Little did Cleasby know that Captain Eyton was already a prisoner on one of the French ships, having been captured two days before in St. John's. In a classic *ruse de guerre*, the French vessels had sailed in with English colours. Believing the ships to be reinforcements sent by the Admiralty from London, Eyton had sailed out in his pinnace to greet them, upon which he was captured. His young lieutenant, John Clifton, was now in charge of the *Saudadoes Prize* and lacked the experience and decisiveness needed to pursue the French fleet.

What was to be done? The *Saphire* was a fast sailer and, being twenty years into her service with the Royal Navy, had been recently retrofitted at significant cost to the Crown. She had a long and eventful career before arriving in Newfoundland that spring, having served in the Mediterranean and Channel fleets, where she had captured Algerian and French prizes and freed enslaved Englishmen on the Barbary Coast.

As much as he loathed to think of the fine ship and its contents being lost to the deeps, the men had all agreed that it would be far more honourable to burn the *Saphire* themselves then to allow her to be captured as a prize by the enemy. With heavy hearts, the men filled their pockets with their small valuables and with musket shot. Most of the costly supplies and provisions on which their survival on board the ship had depended would have to be left behind. Cleasby thought regretfully of the chest of medicines and ointments that had been issued to the ship's surgeon, George Bussell, which was too heavy to carry overland, and of the stores of food and wine that filled her hold.

Having previously served as the Commander of a Royal Navy fireship, Cleasby knew how to rig a ship to burn to maximum effect. He worked quickly with the *Saphire*'s gunner, George Austin, and his mates and quarter gunners to distribute barrels of combustible materials around the ship, and hung cloths soaked in oil from the deck beams. Finally, they placed charges of gunpowder strategically around the gun deck, led a fuse out the port, and lit it on fire.

Once Cleasby and his remaining men were safely on shore, they hid to watch as forty French marines armed with muskets boarded the ship and set about trying to extinguish the fire. They knew it would be only a few short moments before the flames reached the powder room. With no time to spare, Cleasby and his men turned and set off on the long walk to Ferryland.

Introduction

Thus, the *Saphire*'s career in the Royal Navy ended abruptly in Newfoundland, during a voyage undertaken at a time of heated conflict between England and France that is now known as King William's War (1689-1697). After lying dormant on the bottom of Bay Bulls harbour for 300 years, the ship has slowly come back to life over the past forty years since its rediscovery by divers. Archaeological investigations of the site have resulted in a rich collection of the everyday objects used by the officers and mariners of a naval frigate, while the discovery of a wealth of archival records written by, to and about these men and their ship have helped to illuminate narratives that create a tangible connection to understanding their lives.

Theoretical Approach

This study finds theoretical inspiration in new materialism and practice theory, two streams of theoretical discourse that have influenced archaeological research in recent years and that I consider to be complementary.

The integration of current social theory can provide interesting new insights into the material record. However, it is hoped that the research presented in this dissertation will be of interest and benefit to a wide range of audiences, both academic and non-academic. In order to ensure this research is accessible, a deliberate decision has been made to avoid overly complex theoretical digressions and specialized jargon that may be obscure

to non-specialists. Likewise, it is difficult to discuss some aspects of 17th-century naval vessels and operations, as well as 17th-century material culture, without using technical and specialized language. A glossary is therefore provided in Appendix B.

New Materialism

In the early years of the 21st century, new materialism has become an increasingly prominent approach to the interpretation of the archaeological record. In drafting this dissertation, I have considered a number of concepts that provide useful ways of thinking about the materiality of a ship such as the *Saphire* and about the material culture used by those who inhabited it. These include the concepts of *entanglement* proposed by Ian Hodder, the approach of *object itineraries* as developed by Rosemary Joyce and Susan Gillespie, and the conceptual framework of *assemblages of practice* as most recently expressed by Mary Beaudry and Konrad Antczak.

In his latest theoretical turn, Ian Hodder (2011, 2016) has developed the concept of the human-thing entanglement as a way of exploring the dialectic relationships of *dependences* and *dependencies* between humans and things. In this approach, a dependence is an enabling relationship that allows people to use things to carry out specific daily tasks or to develop innovative processes (Hodder 2016: 14). The term *dependency* is used to describe a constraining relationship between humans and things, which limits opportunities and options available to the individual or to society. In real life,

these relationships between specific people and things are complex and intersect with other dependences and dependencies, creating what Hodder (2016: 18) sees as sticky webs of entrapment.

An easily understood example of a human-thing entanglement is our current reliance on the automobile as a means of transportation. A car is a useful tool that has greatly improved and facilitated many of the positive aspects of modern life, such as increased mobility, flexibility in scheduling work and recreation, personal comfort, and the freedom to live in locations that would otherwise not be practical. Acquiring a car can materially improve an individual's quality of life and social opportunities which, following Hodder, we can view as a dependence. At the same time, owning a car has direct and indirect costs, and represents a significant investment of financial resources and time, creating a dependency. In turn, car ownership may influence many of an individual's life choices that might at first seem unrelated; for example, the decision to work at a stable job with a good salary in order to pay for the car, or to move to a bigger house that is not accessible by public transit. The car may also become an expression of individual identity, for example as one internalizes the identity of an SUV-driver or a luxury car owner. These dynamics can operate on both the individual and the larger social level, where the widespread adoption of the automobile has also created dependences and dependencies. Car manufacturing stimulates economic growth and supports workers and their families, and road travel opens up new

opportunities for individuals to explore the world around them. At the same time, the need to accommodate traffic determines patterns of infrastructure construction and constrains urban design, and oil prices have become a critical concern of middle class families. These dependences and dependencies in turn influence government policy and voter's political decisions. Thus, the material thing (the automobile) can be viewed as not simply a passive object that is at the mercy of the humans that created it, but as a dynamic thing that plays an active role in shaping and constraining our economy, social structure and physical environment.

A similar argument can be made that the Royal Navy and its warships resulted from and helped to reinforce human-thing entanglements on both the individual and the state level. It is not an exaggeration to suggest that the rise and fall of the individual Stuart monarchs and of the English state was directly dependent on both the material technology of warships and the social and political support of the naval administration (see, for example, Davies 2017). On the domestic front, the Royal Navy played a critical role in influencing political support for rulers throughout the 17th century, as seen in the rise of Oliver Cromwell, the Restoration of Charles II, and the Glorious Revolution of William III and Mary II. The navy was key to the identity and security of the Stuart monarchs, but warships required a huge capital investment for their construction, as well as constant appropriations to ensure their maintenance and provisioning and to pay the men needed to operate them. When these

demands became too onerous, they led to political and popular revolt. As the naval arms race progressed, first against the Netherlands and later with France, the survival and expansion of the English state became increasingly dependent on continued investments in naval infrastructure. Such a framework can provide new ways of thinking about the very existence of the *Saphire* and the role of this small naval frigate in supporting the imperial ambitions of the Stuart monarchs and shaping the colonial landscapes of the 17th century.

Scholars in a number of related fields such as history, geography, anthropology, and archaeology have been increasingly interested in the concept of globalization of both intangibles such as ideas, language and social systems, and tangible material culture. While a number of approaches have been developed, I have chosen to focus on the concept of *object itineraries* as developed by Rosemary Joyce and Susan Gillespie (2015) to explore the movement and agency of objects through time and space. Their approach builds on the object biography framework first popularized by Arjun Appadurai (1986) and emphasizes the importance of understanding the entire history of movements and pathways of an object, rather than only its final context of disposition, in order to fully understand its significance. Joyce (2015a) uses the example of marble vases from Central America, which are now viewed primarily as museum objects whose significance is derived from their value as singular art pieces. In their earlier lives, these objects formed

part of a complex assemblage of funerary objects that were important not for their own sake, but because of their relationships with other objects and how they affected human actions. More recently, Antczak (2017: 22-25) has refined this approach to talk about *itineraries of things*, rather than object itineraries. He argues that the term *things* invokes groupings of matter, energy and information that are dynamic, interdependent and active, in preference to the term *objects*, which might be considered static, isolated and passive.

Finally, I have adopted the related concept of *assemblages of practice* as most recently expressed by Antczak (2017) and Beaudry (2013) as a conceptual framework for understanding changes, continuities and transformations in the relationships or entanglements between humans and things, and the impacts of these relations at different scales and through time. Antczak (2017: 3) defines an assemblage of practice as a "grouping of things that is dynamically entangled with a human community in events and through the practices of everyday life." In the words of Beaudry (2013: 186), "The point is to study objects as much to learn about practice, what people did with the items, how, and in what circumstances – and why and what it means that they did things the way they did – as about the demand/expenditure side of consumption." She advocates using multiples sources of evidence about the past, including artifacts and documents, to move beyond reporting of description, classification and quantification of artifacts in order to better

understand the material practices and experiences of the everyday lives of people in the past.

Beaudry's archaeology is domestically focused, and she uses this approach to explore practices related to cookery and dining, as well as activities such as alcohol and tobacco consumption, personal hygiene and the presentation of self, arguing that these activities were not typically centered around individual objects, but involved entire suites of objects (Beaudry 2013: 186-187). She looks for sub-assemblages of objects organized not by material or method of manufacture, but as groups of items that were used together to carry out specific sets of habitual or recurrent practices, and how these created and recreated cultural meaning (Beaudry 2013: 187). This approach leads us to consider artifacts as "assemblages of practice" in combination with documentary, ethnographic, experimental and archaeological evidence. I have sought to use this approach in considering the collection of material culture from the *Saphire*, by looking for groups of items that were used together to carry out practices of everyday life on board a 17th-century naval vessel.

However, as Luiz (2018: 40) warns, the identification of assemblages of practice can be complicated by the overlap of assemblage categories. For example, some of the artifacts found on the *Saphire*, such as Frechen-type stoneware bottles and green glass case bottles were used both for food and beverage storage and service, but were also part of naval surgeon's chests.

Luiz reminds us that because an object can be used or included in different assemblages at the same time, archaeologists must recognize fluidity in sub-assemblages.

Practice Theory

Practice theory considers how people, with varying intentions and objectives, recreate and transform the world that they inhabit. Among the most influential proponents of practice theory are Pierre Bourdieu and Michel Foucault. Their work has demonstrated that social actors, both on the individual and group level, create and transform the physical world they inhabit based on complex conscious and unconscious reasons and objectives. In turn, the physical world determines and constrains the actions of the individual and of groups, creating a *dialectic*, or a dynamic relationship between structure and agency. This is a useful theoretical framework for understanding the relationship between individuals and groups of people and the structures of the social and physical worlds they inhabit, which can both enhance and limit opportunities for expressions of *agency*, or the capacity for people to make and pursue their own independent choices.

Pierre Bourdieu (1977) developed the concept of *habitus* to explore how social order is internalized in the human body as a complex of socially transmitted habits, skills and tendencies that affect how an individual processes and reacts to the social world they inhabit. Habitus is acquired through *mimesis*, or imitation, and is learned through the socialization of the

individual as a member of a class, gender, profession, religion or other group. This concept is useful in understanding how patterns of behavior and material culture are transmitted between social groups and across time. An example would be an individual training to be a doctor: in order to be fully accepted (to be “taken seriously”) as a doctor not only by one’s colleagues but also by the broader society, in addition to learning the theoretical foundations of human anatomy or the procedures for a complex surgery, it is just as important to know the physical layout of the hospital and to understand the appropriate working relationships between the nurses, janitors and administrative staff. The individual may also feel pressure to “look the part,” by adopting the mannerisms, language and lifestyle expected of a successful professional, which may be expressed in both intangible and material ways, such as attending charity events, owning a luxury car, and living in a wealthy neighbourhood.

The concept of habitus is similarly useful for understanding social relations on a 17th-century warship: a landsman entering the naval service for the first time, whether as a volunteer or through impressment, would be initially overwhelmed by the new environment and its social conventions, and be challenged to decode the complex processes of controlling the ship’s sails through the web of rigging lines. Through a combination of active instruction, passive observation and repeated bodily practice, a new recruit would develop the practical knowledge and muscle memory to progress through the

ranks of ordinary and able seaman, with corresponding advancements in prestige, privileges and pay, while also perhaps unconsciously adopting the speech, clothing, mannerisms and attitudes of a sailor. A naval vessel was a conservative social structure, and an able seaman of a 17th-century ship who suddenly time-travelled to a ship two hundred years later would have little difficulty navigating the ship and its social hierarchy.

However, change was possible. In the late 17th-century Royal Navy, policies were actively implemented that were intended to remove barriers to promotion based on social class. It can be argued that this change was largely due to the agency of specific individuals such as Samuel Pepys, who successfully advocated for substantive changes within the structures of naval administration. In theory, an ordinary seaman of a modest background could now, based on individual merit, advance to the most senior positions in the navy, which previously had been reserved for the gentry (Davies 2008: 97). In reality, class and social connections continued to provide real advantages (Davies 2008: 90), so the social structure was bent but not broken.

As mariners increasingly moved into the ranks of the officers, they were expected, at least to some degree, to adopt more refined patterns of behavior and to dress for the position. In a parallel example, Samuel Pepys, a man of middling birth who had risen to the highest levels of the bureaucracy as a result of his intelligence and industry, struggled with the question of whether to adopt the outer trappings of gentility (Smith 2002: 28-30). Pepys

sought to be recognized as a gentleman, but had misgivings about participating in patterns of consumption that he considered frivolous or wasteful. However, he recognized that in order to be seen as a gentleman, one had to look like one, and in 1661 he found himself self-conscious among his colleagues from the Navy Board: “I not being neat in clothes, which I find a great fault in me, could not be merry as otherwise and at all times I am and can be, when I am in good habit, which makes me remember my father Osborne’s rule for a gentleman, to spare in all things rather than in that” (Smith 2002: 30).

Michel Foucault focused on the concept of discipline as an expression of structure and power “that have been impressed on the body forming permanent dispositions” (Foucault 1975: 15). His approach considered how violence or the threat of violence were used as a form of social control. This expression of power is most readily seen in prisons and the use of police force. Similar patterns can also be seen in the organizational structures of early modern seafaring, such as those of the Royal Navy, which condoned the public use of corporal punishment to maintain order and control among a diverse group of individuals with different motivations and identities within the cramped confines of a wooden warship. The concept of surveillance is also critical to Foucault’s understanding of this type of social control. Foucault explored the *panopticon*, an idealized design for a 19th-century prison, to demonstrate the effectiveness of surveillance through both visual and aural

observation of inmates. Of course, this type of control can be and often is actively resisted and can be turned entirely upside down, such as when inmates take control of a prison during a riot.

Similar forms of control existed on a wooden ship. The commander and the senior officers kept a watchful eye on the crew from the quarterdeck, and corporal punishment was regularly used to maintain order. Control was also expressed by the strict regulation of time through the system of watches marked at regular intervals by the ship's bell. Privacy was almost non-existent among the lower ranks, who worked, socialized, ate, slept and took care of bodily functions in crowded common spaces. Privacy and personal space were perhaps the most visible markers of rank on a 17th-century naval frigate.

Data Sources

While the original impetus for this dissertation was a study of the material remains and objects collected during archaeological investigations of the *Saphire* in the 1970s, I have taken a broad, multi-disciplinary approach to understanding the history and context of the ship and the men who served on board. When material culture is combined with archival documents, contemporary publications, and marine art, a fuller picture of shipboard society is brought into focus.

Archaeological Collections

This research focused on the two main collections of artifacts that can be securely associated with the wreck of the *Saphire* based on adequately documented archaeological investigations. The first is the collection excavated in 1974 by the Newfoundland Marine Archaeology Society (NMAS), consisting of approximately 250 object records, held at the Provincial Museum of Newfoundland and Labrador at The Rooms in St. John's and catalogued under site number ChAe-1 (Borden system). The second consists of the approximately 3,000 artifacts recovered by Parks Canada in 1977 held at the agency's Walkley Road facility in Ottawa and catalogued under site number 18M (Parks Canada system). A small collection of artifacts recovered in 1977 from Wreck 1 or site 19M by Parks Canada also includes some artifacts that may have been originally associated with the *Saphire.*

These artifacts were collected at different times by different organizations using different provenience systems and recording methods, were cataloged using different conventions and descriptions, and are currently held in two different facilities located 2,500 km apart. These factors have made it more challenging to integrate the two collections in a meaningful way and to standardize and merge the catalogues and databases.

In addition to these two collections of artifacts recovered during archaeological investigations, a large quantity of artifacts were collected from

the *Saphire* and from other locations in Bay Bulls by divers in an uncontrolled manner or were recovered during dredging operations in the harbour. Some of these objects were subsequently donated to the Provincial Museum of Newfoundland and Labrador, where they have been catalogued primarily under site number ChAe-2 (Bay Bulls general or “dump” collection), which comprises a mixture of 17th- and 18th-century artifacts. The collection includes artifacts that were recovered underwater by NMAS divers from an area described as “seaward of the *Saphire*,” and some of these are identical in ware type, form, size and decoration to objects recovered from the documented archaeological contexts discussed above; on balance of probability, some of these objects can be reasonably attributed to the *Saphire.* However, the ChAe-2 collection also includes approximately 300 to 400 objects that have not yet been fully catalogued; it is believed that the majority of these objects were dredged from the harbour and recovered from the town dump. These artifacts comprise a mixture of 17th- to 19th-century material culture that likely represents objects discarded from shore as well as some that may have originally been associated with the wrecks in the harbour.

A handful of other artifacts have been catalogued under site numbers ChAe-6 (north side of Bay Bulls harbour) and ChAe-9 (Bay Bull harbour 2). Again, some of these artifacts are similar in ware type, form, size and decoration to pieces recovered from the documented archaeological contexts

and a tentative association with *Saphire* may be reasonable. With sufficient resources, further work could be undertaken in the future to properly identify and catalogue these collections and to determine which are most likely to be associated with the *Saphire.*

Archival Sources

Original naval records relating to the construction and career of the *Saphire* are preserved in the National Archives in Kew Gardens and the National Maritime Museum in Greenwich. These documents provide information on the operations of the vessel, but also a glimpse of life aboard and of some of the events in the lives of the officers and mariners who served on the *Saphire.*

Previous archival investigations into the *Saphire* were undertaken by Jean-Pierre Proulx (1979) on behalf of Parks Canada and by Axis Consulting (1999) on behalf of the H.M.S. *Saphire* Society. Proulx (1979) transcribed the list book entries related to the *Saphire* (Appendix C) as well as the Admiralty orders issued to Captain Cleasby for the voyage of the *Saphire* to Newfoundland in 1696 (TNA ADM 2/20/210, Appendix D). Photocopies of about two dozen records collected by Axis Consulting were shared with me by Don Drew and Don Beaubier of Bay Bulls.

Despite an assertion some forty years ago by Proulx (1979: 2) that the archival research on the *Saphire* could “now be considered complete,” hundreds of documents related to the *Saphire* remain to be explored. These

include the Admiralty and Navy Board out-letters, essentially the outgoing orders to captains and other officials. However, a large number of documents are also contained in the in-letters of the Navy Board, held at the National Archives at Kew Gardens in the record series ADM 106, which is comprised of the incoming correspondence sent by naval officers to the Navy Board. The in-letters are a useful source of information as they provide an “on-the-sea” look at what was happening on board the *Saphire*, in contrast to the more centralized and bureaucratic view of the Navy Board as reflected in the out-letters. A ten-year gap exists in the captain’s letters between 1688 and 1698, where for the most part only copies of captain’s letters filed in other document classes have survived (Miles 2000: 5).

Recently, improved cataloguing has been undertaken of the hundreds of thousands of letters contained in the hundreds of boxes that make up the ADM 106 series, in order to provide searchable descriptions in the National Archives database. Thanks to these efforts, during a brief visit in 2018, I was able to photograph approximately 300 letters that relate directly to the *Saphire*, and to make note of an additional 300 where the *Saphire* is mentioned in passing. Some of the more interesting amongst these documents are transcribed in Appendix D.

The majority of these newly consulted documents consist of correspondence sent by the commanders of naval ships and by the master shipwrights and master attendants of the royal dockyards to the Secretary of

the Navy Board in London, typically to report problems or to provide updates on operations. As the administrative arm of the naval service, the Navy Board oversaw the construction and repair of warships in the royal dockyards and the day-to-day logistics of supplying them, while the Board of Admiralty (or simply the Admiralty) was in control of naval operations and strategy (Davies 2008: 26-27). Much of the correspondence is administrative in nature, consisting of cover letters for paybooks and muster books, as well as requests for supplies and equipment. However, there are occasional glimpses of life on board and considerable useful information about the materiality of the *Saphire* and the supplies and provisions used on board.

The Admiralty List Books (Appendix C) were monthly references that accounted for the location of all warships currently on the Admiralty lists, and list the rate, officers, complement of men, number of guns, where the ship's pay began, when it was last cleaned, and its current location and duties (Miles 2000: 6). The Orders and Instruction Books are Admiralty copies of all issued orders, which established the mandate of a ship at the beginning of a commission. Courts martial on warships are filed in records series ADM 1 at the National Archives, which comprises periodic reports of proceedings and other in-letters sent to the Admiralty Board by flag officers and commanding officers of warships, naval vessels and shore establishments.

Several log books of officers who served on the *Saphire* have been preserved. Such logs provide information on the location and movement of

vessels, and record the weather and orders. Typical notations include the date, wind direction, ship's course, distance covered, latitude, longitude (based on dead reckoning in the 17th century), and remarks (Wilkinson 2009: 21-27). The log book of Clowdisley Shovell's service as Commander of the *Saphire* beginning in 1677 is preserved in ADM 51 and I am in the process of transcribing it. Other sources, such as the surviving pay books and muster lists for the *Saphire* were not examined in detail, but are rich in information about the ship and the men.

Records held at the National Maritime Museum include out-letters of the Admiralty, which were signed by three members of the Admiralty, although sometimes orders were signed only by the Secretary of the Admiralty, such as Samuel Pepys. The record series ADM/A relates to the construction of vessels, dockyards, appointment of officers and financial matters.

Contemporary Diaries and Publications

Other first-hand written sources, such as diaries and memoirs, can provide interesting insights into the operations of the Royal Navy and its ships. The works of many 17th-century diarists have survived, including those of Samuel Pepys, John Evelyn, Edward Barlow, and Henry Teonge. These men were perceptive observers who described what they saw and what to them seemed noteworthy, but many everyday details of life were overlooked.

Several 18th-century historians in England and France, including John Campbell (1750), Pierre Charlevoix (1744), John Charnock (1794), and John Oldmixon (1708), wrote about the loss of the *Saphire*.

The *London Gazette* was established in 1665 as the oldest surviving English-language newspaper. Its pages frequently carried news of the Royal Navy's losses and victories, as well as reporting sightings of merchant and naval ships as they returned to English ports from foreign stations.

Marine Art and Models

Other useful sources of information about 17th-century warships include the famously detailed and accurate ship portraits produced by the Dutch marine painters Willem van de Velde the Elder and Willem van de Velde the Younger on behalf of the Royal Navy (Fox 1980: 8). While there is no known ship portrait of the *Saphire*, Willem van de Velde the Younger produced several sketches of similar Fifth Rate frigates in the late 17th century that provide clues to the appearance and construction of the *Saphire.*

In the late 17th century, models of new naval vessels began to be produced for design approval by the Admiralty, and early ship plans such as those of William Keltridge began to appear. A section drawing of a First Rate from 1690 drawn by the marine engineer Phillips, now held in the collection of the National Maritime Museum in Greenwich, provides useful insight into the arrangement of interior space and fittings inside a large warship.

Comparative Shipwrecks

As with other types of archaeological assemblages, comparing the finds from the *Saphire* to existing collections from contemporary naval shipwrecks can lead to the identification of larger patterns of behavior. Publications were sought regarding assemblages of objects recovered from contemporary wreck sites, focusing on, but not limited to, English naval vessels dating from between about 1650 and 1725 (Table 1). More than two dozen known Royal Navy shipwrecks dating to this period have been located, although some identifications remain tentative. However, very few of these have been studied systematically and even fewer have published descriptions of the objects or hull structure. A number of these wrecks were heavily salvaged and almost completely lack useful documentation.

NAME	RATE	LAUNCHED	LOST	REFERENCES
Swan	Sixth (pinnace)	1641	1653 Duart Point, Isle of Mull	Eames 1961; Martin 1995, 1998a, 2004, 2007, 2017
London	Second	1656 Chatham	1665 Southend-on-Sea	The London Shipwreck Trust n.d.
Royal James (tentative)	First	1671 Portsmouth	1672 Dunwich, Suffolk	
Mary	Yacht	1660 Amsterdam	1675 The Skerries, Anglesey	Davies 1973; McBride 1973; Priestman 1973; Fenwick and Gale 1998; Tanner 2009
Dartmouth	Fifth	1655 Portsmouth	1690 Sound of Mull, Scotland	Adnams 1974; Holman 1975; McBride 1976; P. Martin 1977; C. Martin 1978, 1998a; Batchvarov 2007
Anne	Third	1678 Chatham	1690 Pett Level, near Hastings, Sussex	Marsden and Lyon 1977; Endsor 2017
Coronation	Second	1685 Portsmouth	1691 Penlee Point, Plymouth	Fenwick and Gale 1999; Berry and Camidge 2012
Swan (tentative)	Fifth	1673 Dutch	1692 Port Royal, Jamaica	Clifford 1993

Sussex (tentative)	Third	1693 Chatham	1694 Straits of Gibraltar	Dobson et al. 2009; Rodríguez Temiño 2017
Winchester	Fourth	1693 Bursledon	1695 Key Largo, Florida	Peterson 1972; Barnette 2008
Saphire	Fifth	1675 Harwich	1696 Bay Bulls, Newfoundland	Simmonds 2002
Hampshire (tentative)	Fourth	1653 Deptford	1697 York Factory, Manitoba	Endsor 2005; Sigurdson 2014
Roebuck	Fifth	1690 Wapping	1701 Ascension Island, South Atlantic	McCarthy 2002, 2004; Sexton 2015
Resolution (possible)	Third	1667 Harwich	1703 Norman's Bay, Sussex	Smith 2006; Wessex Archaeology 2007
Restoration	Third	1678 Harwich	1703 Goodwin Sands	Wessex Archaeology 2006
Northumberland	Third	1679 Bristol	1703 Goodwin Sands	Pascoe et al. 2014; Pascoe and Peacock 2014; Pascoe 2017
Stirling Castle	Third	1679 Deptford	1703 Goodwin Sands	Lyon 1980; Endsor 2004; Cates and Chamberlain 2006; Dunkley 2008; McElvogue 2008; Smith 2010; Pascoe 2012
Hazardous	Fourth	1698 France	1706 Bracklesham Bay, West Sussex	Owen 1988, 1991; Barker 2005
Association	Second	1697 Portsmouth	1707 Isles of Scilly	Larn 1995
Eagle	Third	1679 Portsmouth	1707 Isles of Scilly	
Firebrand	Fireship	1694 Limehouse	1707 Isles of Scilly	IJNA 1982; Camidge 2011
Edgar	Third	1668 Bristol	1711 Spithead, Hampshire	The Albion1844
Feversham	Fifth	1696 West Sussex	1711 Scatterie Island, Nova Scotia	Christie's 1989; Reedy 1998
Dragon	Fourth	1647 Chatham	1712 Alderney, Channel Islands	Bound and Gosset 1998
Royal Anne (tentative)	Galley frigate	1709 Woolwich	1721 The Lizard, Cornwall	Camidge, Johns and Rees 2006; Camidge et al. 2009

Table 1: Located and Investigated Wrecks of Royal Navy Vessels, circa 1650-1725

The *Swan* (launched 1641, lost 1653): A small pinnace that started its career in the Irish Sea on the side of the Royalists, the *Swan* was captured at Dublin by Cromwellian forces in 1645 (Eames 1961). In 1653, the ship was

sent to Duart Castle on the Island of Mull in Scotland's Inner Hebrides to quell a Royalist rebellion in support of Charles II, where it subsequently sank in a storm. It was discovered by a diver in 1979 and was the subject of excavations led by Colin Martin of the University of St. Andrews (Martin 1995, 2004, 2007, 2017). Significant portions of the hull were preserved beneath ballast and iron guns. Decoratively carved timbers show the extent of ornamentation that was typical at the time. A comprehensive study of the wreck was published in 2017.

The *London* (launched 1656, lost 1665) was a Second Rate that exploded at Southend-on-Sea, on the north side of the Thames estuary. In cooperation with Historic England, approximately 700 objects have been recovered and conserved. This work has not yet been published, but some information about the project and a virtual tour are available online (The London Shipwreck Trust n.d.).

The *Dartmouth* (launched 1655, lost 1690): This Fifth Rate frigate, built in 1655 at Portsmouth, provides one of the closest known parallels to the *Saphire,* as well as one of the most fully excavated and most comprehensively studied (Adnams 1974; Holman 1975; McBride 1976; P. Martin 1977; C. Martin 1978, 1998; Batchvarov 2007). The aging *Dartmouth* was commissioned as a fireship in 1688 but was quickly re-established as a Fifth Rate in early 1689. The frigate was sent to Scotland in 1690 as part of William III's fight against the Jacobites. It sank near the island Rubha an

Ridire, north of Duart Castle in the Sound of Mull. A comprehensive publication of the work on the site is currently in preparation by Colin Martin of St. Andrew's University.

The *Swan* (launched 1673; lost 1692): A shipwreck that sank during the 1692 earthquake at Port Royal, Jamaica, has tentatively been identified as the Fifth Rate *Swan,* a frigate of Dutch origin captured as a prize by the English in 1672 (Clifford 1993).

The *Winchester* (launched 1693, lost 1695): A Fourth Rate carrying 60 guns was lost on Carysfort Reef in Florida while returning from Jamaica (Peterson 1972: 260-261; Barnette 2008: 46). The ship was part of the West Indies squadron when it was struck by a severe illness that killed all but a handful of the officers and crew within a matter of weeks. Following its discovery in 1938, salvors recovered a clock, coins, silver and pewter table wares, iron shot, musket shot, anchors, a still-legible prayer book and at least 28 iron guns. Further salvage work in the 1950s lead to the recovery of additional artifacts, including pewter objects and a gold watch. Unfortunately, there is little published information about this wreck or the finds recovered from it.

Goodwin Sands Wrecks of 1703: The wreck of the Third Rate *Stirling Castle* (launched 1679) was lost in the Goodwin Sands off the coast of Kent in 1703. Rediscovered in 1979, the wreck was explored under license and a rich collection of artifacts was recovered (Lyon 1980; Endsor 2004; Cates and

Chamberlain 2006; Dunkley 2008; McElvogue 2008; Smith 2010; Pascoe 2012). Many of these artifacts are now on display at the Ramsgate Maritime Museum in east Kent. Two other Third Rates lost in the same storm have been relocated: the *Northumberland* (Pascoe et al. 2014; Pascoe and Peacock 2014; Pascoe 2017) and the *Restoration* (Wessex Archaeology 2006).

Isles of Scilly Wrecks of 1707: A number of wrecks have been discovered that were part of the 1707 naval disaster in the Isles of Scilly that claimed the life of over 1,600 men, including Admiral Sir Clowdisley Shovell, and in which four warships were lost, including the *Association*, the *Eagle*, the *Firebrand* and the *Romney* (IJNA 1982; Larn 1995; Camidge 2011). Unfortunately, the early interventions on these wrecks are not well documented, and many of the recovered artifacts were sold at auction or disappeared into private collections. Notably, the uncontrolled looting of the *Association* is attributed as being the inspiration for the United Kingdom's *Protection of Wreck Act, 1973* (Larn 1995: 56-57).

The *Association* was Admiral Shovell's flagship, a Second Rate of 96 guns. It was found by divers employed by the Royal Navy in 1967 (Larn 1995: 54) and subsequently was heavily salvaged under contracts issued by the Ministry of Defence, with many of the artifacts sold off. Finds included bronze guns, gold and silver coins, ship fittings, small arms, and navigational

instruments. Likewise, the wreck of the *Eagle*, a Third Rate of 70 guns, was also salvaged and many artifacts were sold at auction.

The wreck of the *Firebrand,* a purpose-built fireship launched in 1694, was discovered in 1981 (IJNA 1982: 254). A number of artifacts were recovered, including a wooden nocturnal, a bell, two carved cherubs, glass bottles, and a Bellarmine bottle, but their whereabouts are now uncertain (Camidge 2011: 73). The first archaeological survey of the *Firebrand* was conducted between 2006 and 2009 by the University of Bristol and the Cornwall and Isles of Scilly Maritime Archaeology Society, and documented eight guns and six anchors on the site, as well as a number of small artifacts, including lead scupper pipes, tobacco pipes, a sheave, sheet lead, slate, glass, and ceramics (Camidge 2011).

The *Feversham* (launched 1696; lost 1711): The *Feversham* was a 32-gun Fifth Rate frigate that sailed to the Gulf of St Lawrence with provisions and cash to assist the British campaign against the French during Queen Anne's War. The *Feversham*, along with three other ships, sank off Scatarie Island near Louisbourg, Nova Scotia during a storm on October 7, 1711. The wreck was heavily salvaged in 1968 and a large cache of coins was sold at auction. The remaining artifacts were transferred to the Maritime Museum of the Atlantic in Halifax, but very little information is available about these finds.

Other wrecks: Other wrecks that are relevant to the *Saphire* include ships excavated in the Gulf of St. Lawrence, such as the presumed wrecks of

the *Corossol* (lost 1693), *Elizabeth and Mary* (lost 1690), *Marguerite* (lost 1707), and the wrecks lost as part of the Admiral Hovenden Walker's expedition of 1711 (Graham 1953; Lafrance 1972: 118-126).

The *Elizabeth and Mary* (lost 1690): Also known as the L'Anse aux Bouleaux wreck the *Elizabeth and Mary* was one of four vessels lost as part of Sir William Phip's unsuccessful expedition of 30 ships from Massachusetts to attack Quebec in 1690 (Bernier 1996, 2003; Bernier et al. 1997; Ringer 2000; Bradley et al. 2003). The ship was a small barque built in New England and was carrying members of a militia. A rich collection of artifacts was recovered during archaeological excavations conducted by local divers and Parks Canada, including muskets and other weapons, personal possessions, clothing items, pewter dishes and cutlery, as well as a portion of the preserved hull remains.

Other archaeological studies of early modern shipwrecks, including the meticulous work on the *Mary Rose* (launched 1511; lost 1545)*, Vasa* (launched 1627, lost 1628) and *La Belle* (launched 1684; lost 1686), were also consulted, as noted throughout the text.

Research Questions and Organization of the Dissertation

This research used a multi-scalar approach to apply three different lenses to understanding the significance of the *Saphire* in understanding the role of the Royal Navy in the late 17th-century Atlantic world, the significance of *Saphire* in 17th-century Newfoundland, and the nature of social

organization on board a naval vessel. Such an approach has been advocated as a means of situating specific shipwrecks within a contextual framework of greater relevance to addressing broader issues of contemporary culture, society, technology, and economy (Martin 2001: 283).

The dissertation begins with two background chapters. Chapter 2 presents a summary of previous investigations of the *Saphire* since it was rediscovered in 1968, including a description of the archaeological fieldwork, site formation processes, object conservation and material culture analysis.

Chapter 3 provides context on the Royal Navy in the late 17th century and discusses the importance of the navy to the rule of Charles II, James II, William III and Mary II. It discusses t naval administration, approaches to naval construction, naval tactics, and the rise of the frigate as a new type of warship.

The *Saphire* as a Tool of the Late 17th-Century Royal Navy

The first lens considers the *Saphire* at the broadest level, as an entangled tool of the Royal Navy built and operated at great cost to advance the ambitions of England's Stuart rulers in the late 17th century. Contemporary records allow the formulation of an itinerary of this small warship from its launching in 1675 to its loss in 1696, situated against the backdrop of the major political, military and social events of 17th-century England.

Chapter 4 outlines an itinerary of the *Saphire* over its 21-year career to

determine how successfully this frigate fulfilled the Royal Navy's objectives. The *Saphire* represented a new approach to war at sea, which favoured the use of small, fast ships for patrol and convoy duty over the massive warships of the line of battle. However, to date there has been no attempt to examine the *Saphire'*s career prior to its arrival in Newfoundland in 1696.

Chapter 5 uses available archaeological information, naval correspondence and contemporary images to illuminate the material processes of constructing, outfitting, operating and maintaining the *Saphire* as a complex technological artifact.

The *Saphire* and the Royal Navy in Newfoundland

The second lens focuses on the significance of the *Saphire* at the regional level, by examining the social and economic relationships between naval personnel and the settlers, merchants and fishers of Newfoundland in the late 17th century. At that time, naval commanders played a role not only in defense, but also in the government and judicial affairs of the island. A comparison of material culture recovered from the *Saphire* with the archaeological record of settlements such as Ferryland illustrates how seaborne trade led to an increasingly globalized material culture that represents a growing consumerism.

Chapter 6 examines the role of the Royal Navy in 17th-century Newfoundland, and the impacts of King William's War on these relationships. It recounts the incidents that led to the loss of the *Saphire* in Bay Bulls.

Finally, it looks at the demand for consumer goods in 17th-century Newfoundland and the possibility of trade between naval officers and the inhabitants of the east coast of Newfoundland between Trepassey and Bonavista, known as the English Shore.

Life on a 17th-Century Warship

Ultimately, the study of shipwrecks is about people. The third lens examines social relationships and daily life on a small warship in the late 17th century through the material culture recovered from the wreck and through contemporary documents. It looks at how naval hierarchy was established, expressed and contested. The concept of assemblages of practice is used to better understand how the artifacts recovered from the wreck reflect the *habitus* of the daily lives of 17th-century mariners.

Chapter 7 focuses on the social dynamics of shipboard life and the experiences of those who worked and travelled on a 17th-century naval ship. Naval ships were highly stratified social spaces, and the officers and crew performed their assigned roles to transform these ships into effective tools of the state. The men who served on board the *Saphire* formed a floating society that was both self-contained and that interacted with other societies along the ship's itinerary. The framework of assemblages of practice is used to integrate material culture recovered from the site into a discussion of daily life on board.

Finally, Chapter 8 provides conclusions based on the findings of these approaches. It makes a case for expanding Atlantic history approaches in archaeological interpretation to embrace the concept of Oceanic history and makes a case for researchers to focus, when practical, on the analysis of existing museum collections of archaeological objects to answer research questions in preference to the continued excavation of limited in situ archaeological sites.

CHAPTER 2:
PREVIOUS INVESTIGATIONS OF THE *SAPHIRE*

Site Location

Located approximately 30 km south of St. John's (Figure 1), Bay Bulls is one of the oldest fishing harbours in Newfoundland and has been used by French and English fishermen since the 16th century (Smallwood 1967: 148). It was included in a patent granted to Sir George Calvert in 1621 (Pope 1992: 13-15), and has been almost continuously occupied and visited by merchants, fishers and sailors since that time. The population was reported by William Poole in 1677 as 6 houses, 6 planters, 3 wives, 8 sons, 2 daughters, 57 fishing servants, 15 boats, 16 cattle, 5 sheep and 50 hogs, with a production of 660 quintals of fish (Smallwood 1941: 69). By 1708, Oldmixon (1708: 7) reported that there were 20 houses and families settled at Bay Bulls.

During the 17th and 18th centuries, the inhabitants of Bay Bulls suffered frequent attacks, first by the Dutch and then the French (Smallwood 1967: 148) . During the Second Anglo-Dutch War, Bay Bulls was raided by a Dutch fleet commanded by Admiral Michiel de Ruyter (Prowse 1896: 170). During King William's War, Bay Bulls was attacked by the French led by Jacques-Francois de Brouillan in 1696 and by Pierre Le Moyne d'Iberville in 1697, followed by a number of minor raids in the early 18th century during Queen Anne's War (Smallwood 1967: 148). In 1762, 700 French forces led by Admiral d'Arsac de Ternay took Bay Bulls and marched on St. John's (Prowse

1896: 305). The last French action at Bay Bulls occurred in September 1796, one hundred years after the loss of the *Saphire*, when Admiral Richery burned Bay Bulls (Prowse 1896: 372; Smallwood 1967: 148).

Figure 1: Detail from a chart of Newfoundland made in 1693 by Augustine Fitzhugh, showing the location of Bay Bulls on the Avalon Peninsula.
(NorFish Platform: Databases & Cartography Hub, http://cehresearch.org/norfishplatform/items/show/4)

Bay Bulls has served as a preferred convoy station for the Royal Navy in Newfoundland since the 17th century and continued to do so through the Second World War, when a naval repair station was established. On May 11, 1945, the German submarine U-190 surrendered to the Royal Canadian Navy and was escorted into Bay Bulls (Haigh 2018). A small glass jar recovered from Bay Bulls harbour is of a type issued as rations for the German Wehrmacht (Pool 2010; Figure 2). It is marked *Reichsfachgruppe Imker* –

Gewähr für echten Deutschen honig (Reich Beekeepers Organization – Guaranteed Real German Honey).

Figure 2: Second World War German honey jar found in Bay Bulls, ChAe-9:2.
(Photo by the author)

Fish processing has long been an important commercial activity in the harbour, which was also the location of the Newfoundland Marine Biological Research and Fishery Station until it was destroyed by fire in 1936. Bay Bulls is now a small village with a population of about 1,500, which is slowly growing as the town becomes a bedroom community for St. John's. Tourism is important to the local economy and supports bed and breakfasts and a pub named after the *Saphire.* A number of tour companies use Bay Bulls as a departure point for whale, bird and iceberg watching excursions. Most recently, a large repair facility for oil rigs was constructed, leading to concerns about potential impacts to the historic shipwrecks in the harbour (Neil Burgess, pers. comm., 2019).

Rediscovery of the Site

The *Saphire* lies in about 18 m (60 feet) of water, and about 100 m from the shore in Bay Bulls. The wreck was rediscovered in about 1968 by scuba divers, who spotted large iron guns and numerous Iberian storage jars on the site. In his memoir, salvage diver Marcel Robillard (2002: 62) reports discovering the wreck in 1968 while searching for sunken airplanes and finding “ceramic vases and cutlery.” Over the next few years, divers removed a significant number of artifacts from the wreck. While some of these are now in the collection of provincial museum at The Rooms, most remain unaccounted for. The uncontrolled recovery of artifacts continued until about 1972, when commercial divers recovered at least three iron guns from the wreck (Barber 1977: 305).

Other Shipwrecks in Bay Bulls

In addition to the *Saphire* (also known as Wreck 2, site ChAe-1, or site 18M), at least two other shipwrecks lie on the bottom of Bay Bulls (Figure 3).

Wreck 1, assigned site number 19M by Parks Canada, is likely the *Penguin,* a 10-gun sloop built in Bermuda and sold to the Royal Navy in Newfoundland in 1776 (Winfield 2007: 334). It sank in Bay Bulls in 1778 during a storm. When found, the wreck was almost completely buried in silt. Exploratory dives were conducted by NMAS in 1974 and by Parks Canada in 1977. A small collection of artifacts were recovered and catalogued under site number 19M, which includes a mixture of objects dating to the 17th and 18th

centuries, suggesting that some may be related to the *Saphire*. Three guns were visible on the site in 1974; it has been suggested that these are from the *Saphire* and were accidentally dropped on Wreck 1 by divers during unsuccessful attempts to salvage them. No systematic study or report has been prepared that focuses on site 19M.

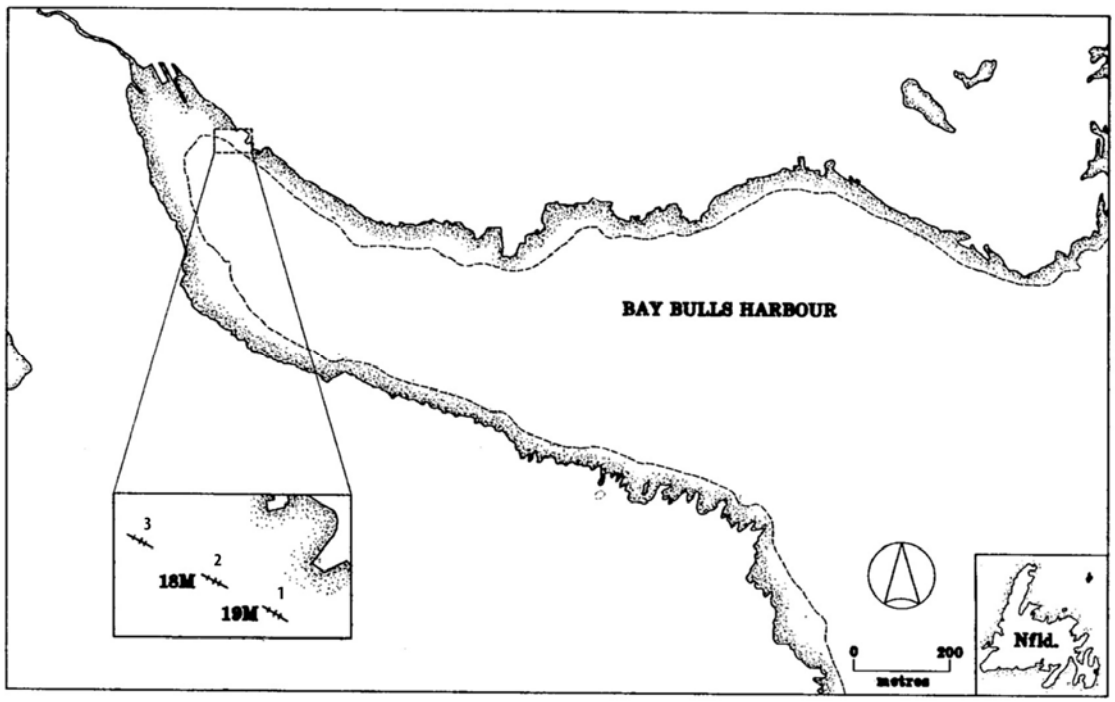


Figure 3: Map of Bay Bulls harbour showing the three documented wrecks.
(Drawing by Steven Epps, courtesy of Parks Canada)

Wreck 3 was more prominent than the others, consisting of visible hull remains and a ballast pile measuring about 65 feet (20 m) long by 15 feet (4.6 m) wide. A number of possible identities, including the *Asia* and the *Loyalty*, have been proposed for Wreck 3 based on recorded losses of Royal Navy vessels in the “Bay of Bulls.” However, these accounts refer to incidents that

took place in a different Bay of Bulls near Cádiz, Spain, and Wreck 3 remains unidentified.

Newfoundland Marine Archaeology Society

In 1972, concerns over the looting of the *Saphire* spurred the creation of the Newfoundland Marine Archaeology Society (NMAS), initially named the Avalon Marine Archaeology Society. NMAS was established with the aims of protecting and investigating shipwrecks of cultural and historical interest (Barber 1977: 305). Its members included engineers, divers, historians and scientists.

The initial identification of Wreck 2 as the *Saphire* was made by members of NMAS, who tracked down information about the loss of the *Saphire* in the Public Records Office (now the National Archives) in London and the Pepysian Library in Cambridge (Barber 1977: 312). At the time, the *Saphire* was the oldest identified shipwreck in Canadian waters, and its identification sparked considerable media interest.

NMAS performed preliminary investigations of the three wrecks in Bay Bulls and undertook preparatory work over the course of three summers from 1973 to 1975 in anticipation of a major excavation of the *Saphire*. This work was partially funded by the provincial government, and was undertaken by avocational archaeologists on a volunteer basis. The work of NMAS in Bay Bulls is documented in a series of fieldwork reports (Barber 1976; Barber 1977; Barber and Barber 1980; Newfoundland Marine Archaeology Society

1973, 1974, 1975, 1976, 1977).

A preliminary site map of the *Saphire* was prepared in 1974 (Figure 4). Trial excavation was conducted under a provincial license over the course of two days, with NMAS divers recovering 304 artifacts from three distinct excavation areas, totaling about 2 m^2, with most of the artifacts being recovered from Area 2 in the stern of the vessel (Barber 1977). These included a brass bell, clay pipe fragments, glass bottles, ceramics, pewter spoons, shoe leather, iron shot, and a pane of flat glass. NMAS undertook the cataloguing and conservation of these artifacts as reported by J. Barber (1976). These artifacts form the core of the ChAe-1 artifact collection now held at The Rooms. In 1975 members of NMAS constructed an underwater grid over the *Saphire* to permit a more accurate photogrammetric survey of the site (Jacobs and Moir 1976).

Parks Canada

Robert Grenier, head of the underwater team in the Archaeological Research Division of the National Historic Parks and Sites Branch of Parks Canada, first visited Bay Bulls in November 1973. Following that visit, Parks Canada developed plans to conduct a reconnaissance mission in Bay Bulls to determine the research potential of the three wrecks. In a plan dated July 1, 1975, Parks Canada proposed to undertake a formal archaeological survey and excavation of the *Saphire* (Grenier 1975).

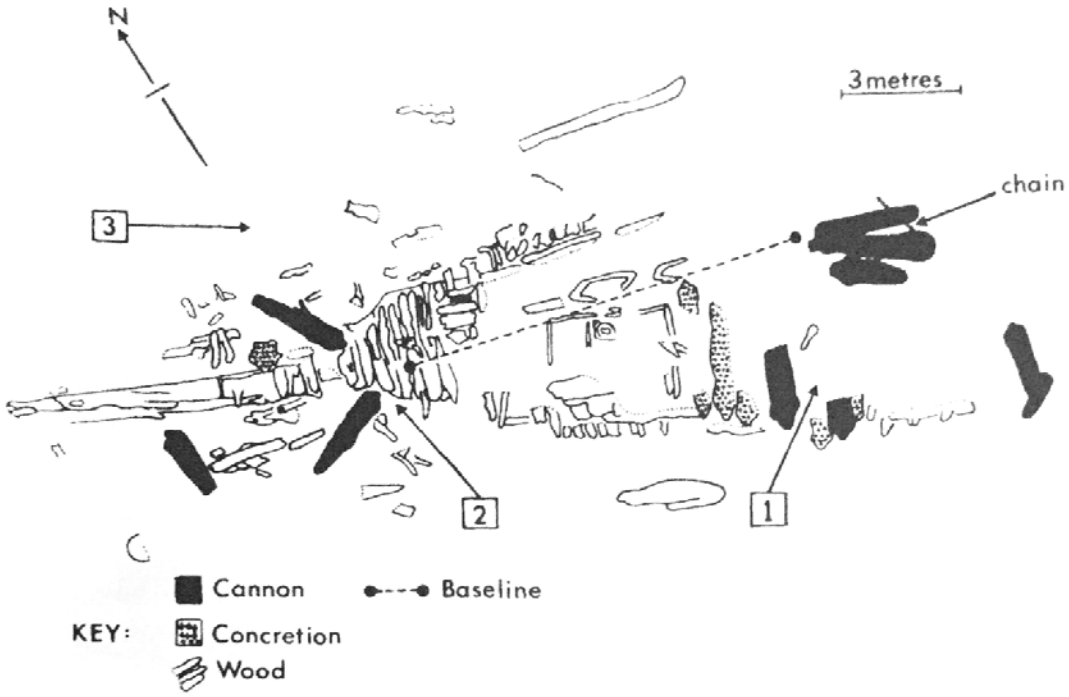


Figure 4: Map of the 1974 investigation of the *Saphire* by NMAS, showing the three areas from which artifacts were recovered. (Barber 1977: 308)

The Government of Newfoundland and Labrador was informed of this plan and indicated that Parks Canada would be expected to comply with provincial legislation and to obtain a permit for work in Bay Bulls. Parks Canada subsequently postponed its plans. According to Barber (1976: 1-2), the main reason for the slow progress was fear of setting a precedent regarding provincial claims to mineral rights in the seabed. In addition, Vernon C. Barber, then President of NMAS, was concerned that local involvement in the project would be eliminated if the project was reassigned to the federal government, and that significant artifacts would be removed from the province and would no longer accessible.

In 1977, an agreement was signed between the Government of

Newfoundland and Labrador's Department of Tourism and the Government of Canada's National Historic Parks and Sites Branch, which oversaw Parks Canada's research activities. The agreement outlined a plan to share the recovered artifacts between the two levels of government and enabled the federal archaeologists to conduct exploration and evaluation of the *Saphire* and the other wrecks in Bay Bulls. In part, the province agreed to let the federal team excavate the site because of the level of federal funding and the availability of state-of-the-art conservation facilities in Ottawa.

Three objectives were outlined for the 1977 fieldwork season (Grenier 1975):

1. To identify the technical challenges of working in Bay Bulls;
2. To determine the extent of preservation of the wreck sites;
3. To evaluate the quantity and nature of the material culture on the site in order to plan for adequate recording and conservation during future work.

Between September and November 1977, Parks Canada conducted test excavations as a joint venture between the Government of Canada and the Province of Newfoundland and Labrador. With Parks Canada's research barge on site and a budget of approximately $150,000 (not including salaries), thirteen Parks Canada staff worked on the project that summer, including archaeologists, divers and conservators (Grenier and Waddell 1978). The team included three members of NMAS, employed on a contract

basis as representatives of the province. Funding was provided by the provincial government to support further participation of members of NMAS in the project on a volunteer basis. The participation of NMAS helped to promote local involvement and ensured that the province was represented on the project, while also providing employment and experience to the participants. NMAS members prepared four reports on the 1977 excavation on behalf of the province.

At the end of the 1977 field season, artifacts were prepared for transfer to Ottawa, the site was mapped, and excavation trenches were filled in with sand bags. During the course of the season, 660 dives were undertaken, including 307 dives to excavate the *Saphire*, 37 dives on Wreck 1, and 1 dive on Wreck 3 (Grenier and Waddell 1978). The remaining 315 dives involved technical tasks such as equipment installation, mapping and photography.

In 1978, it was estimated that two full additional excavation seasons would be necessary to complete the excavation of the *Saphire* and a study of the ship structure, as well as to assess the archaeological potential of the Wrecks 1 and 3 (Grenier 1978: 7). However, Parks Canada started work on the 16th-century Basque shipwrecks in Red Bay the following year, and further archaeological work on the *Saphire* was not undertaken by the Agency. A summary of the 1977 fieldwork was prepared by Robert Grenier and Peter Waddell (1978).

Excavation Methodology

As on other Parks Canada excavations, established archaeological procedures for mapping all elements of the site in three dimensions were employed (Grenier and Waddell 1978). Parks Canada established an operational baseline running approximately east to west along the axis of the keelson and installed a 2 m by 2 m grid system off the baseline (Figure 5). In the mapping system used by Parks Canada, the baseline forms the X axis and was numbered in meters from 36 to 62. Letters were assigned every meter along the Y axis at right angles to the baseline, from J to R (with I and O being omitted due to potential for confusion with the numbering system).

Using the Parks Canada system, an operation typically consisted of a trench excavated over several grid squares, while a sub-operation referred to a single 2 m by 2 m grid square. A 2 m by 16 m trench consisting of eight sub-operations was excavated across the midships area in the center of the site, in grid squares 48K through 48S (Figure 5). In the forward area of the wreck (the northwest end of the site), three sub-operations were excavated along the axis of the keel, designated 36N, 38M and 40M. In the aft area of the wreck (the southeast portion of the site), an additional trench covering three sub-operations was opened along the keel axis, identified as 56N through 60N. The excavation of each sub-operation varied from 30 cm to over 100 cm in depth (NMAS 1977: 11).

A suction water dredge was used to carefully remove sediment. This

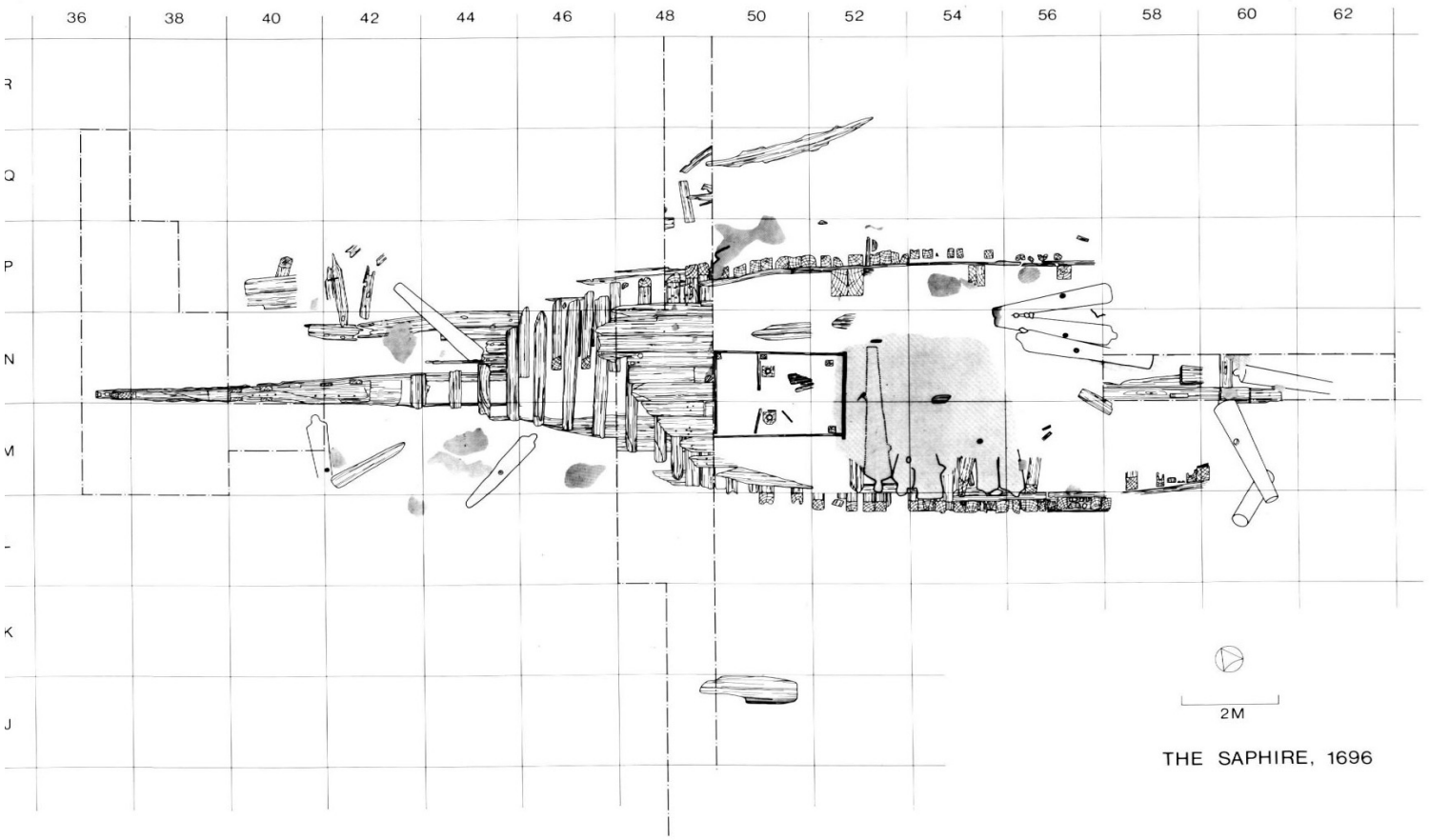


Figure 5: Map of excavation of the *Saphire* by Parks Canada in 1977.
(Courtesy of Parks Canada)

required the vigilant attention of the user to prevent loss or damage to fragile objects. Structural features within each sub-operation were mapped and photographed during excavation and left in situ. A plane table was set up underwater and was used to establish elevations and draw cross-sections.All artifacts were recorded, photographed, videographed, and drawn in situ to document their original positions. For each dive, artifacts from a single sub-operation were assigned a lot number and sorted by material type (e.g., wood, bone, textile, ceramic). Individual objects were assigned an artifact number in the laboratory. Dive logs and photo logs were maintained and a site plan was developed.

The site deposits and artifacts are estimated to extend about 6 m to either side of the baseline, indicating that about 550 square meters of the site were intact prior to the start of excavation work in 1977 (Grenier and Waddell 1978). The 52 square meters of the site that were excavated thus represent only about 10 percent of the intact deposits.

The careful site recording allows for the reconstruction of spatial association between artifacts found on the site, providing clues to differential provenience (i.e., the forecastle and forward hold vs. the midships cargo hold vs. the sterncastle and officers cabins), functional relationships between artifacts (such as navigational tools and the surgeon’s chest) and site formation processes that may have shifted objects around the site or introduced intrusive artifacts.

Site Formation Processes

While shipwrecks are sometimes described as time capsules with closed archaeological contexts, the reality is often more complex, and material culture from wreck sites is frequently dispersed from its original site of deposition or contaminated with intrusive artifacts. A number of physical, chemical, human, and biological processes affect a wreck site, and result in the removal or addition of things to the site, the movement of objects around the site, breaking up of the structure, the exposure of fragile materials, and other taphonomic processes that can complicate interpretation (Muckelroy 1978: 165-175).

The *Saphire* seems to have sunk with relatively little damage, aside from the known fire and explosion, and appears to sit more or less evenly on its keel with little apparent listing to either side (Figure 6). The wreck lies on top of a layer of fish bone measuring 20 to 25 cm thick, which is believed to have been deposited during intensive fish processing activities in the harbour that predate the loss of the *Saphire* (Cumbaa 1979).

It is likely that waves, currents and marine life caused loose and lightweight materials to float away immediately following the sinking, resulting in little preservation of the upper structures, masts or rigging. Once the ship settled onto the bottom, the depth of about 15 to 18 m (50 to 60 feet) helped to preserve the wreck by placing it beyond the reach of all but the most violent wave action.

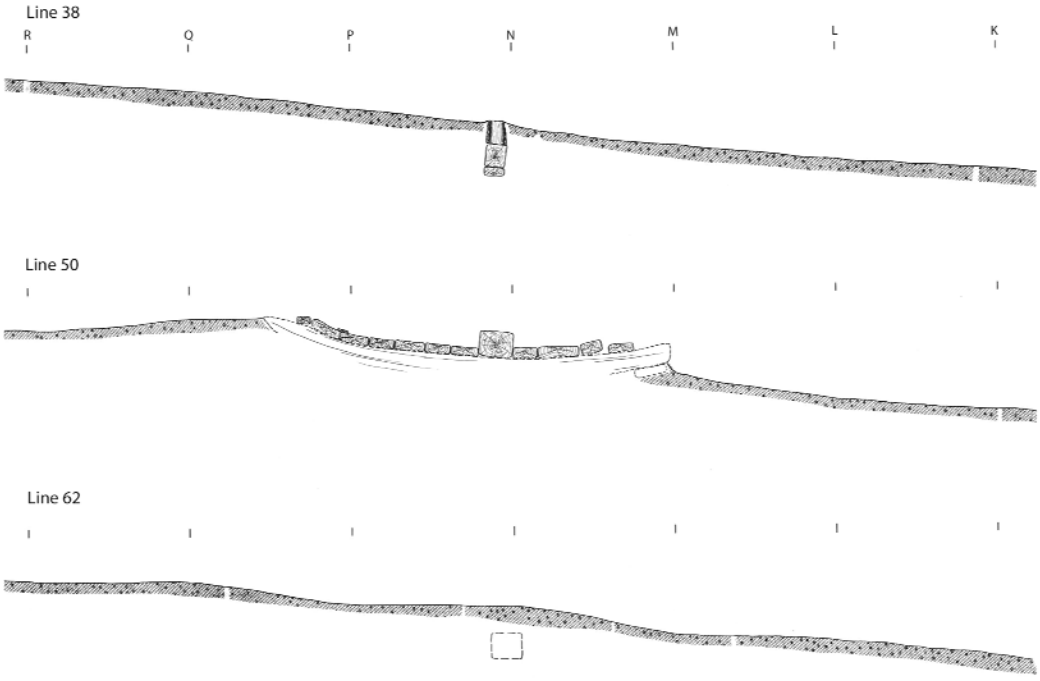


Figure 6: Cross-sections through the wreck site at the stern, midships and bow.
(Courtesy of Parks Canada)

Some objects from the *Saphire* seem to have been deposited on the site of Wreck 2 (19M) or scattered elsewhere around Bay Bulls harbour. Artifacts from these sites that date to the late 17th century may be tentatively associated the *Saphire* or may represent objects discarded from shore or from other vessels in the harbour. In some cases, artifacts have been recovered that are virtually identical to those excavated from intact sediments on the *Saphire* site, including for example fragments of the distinctive cobalt and manganese decorated English delft drug jars that make up much of the ChAe-1 collection. A small number of artifacts excavated from the site of the

Saphire are clearly from the 18th century (including creamware and pearlware dishes) and can considered to be intrusive.

The hull remains exhibit damage from marine borers such as *Teredo navalis*, which would have quickly consumed any exposed parts of the wooden ship. The heavy iron guns helped to secure and preserve the structure and contents trapped beneath them and promoted the accumulation of sediment. The thick, fine-grained sediments created an anaerobic environment conducive to the preservation of most organic and inorganic materials that were fully buried within it. The remains of the bottom portions of the ship were well protected, with good preservation of the structural remains and material culture.

One of the biggest impacts to the site is from salvage and looting by divers looking for objects to sell for profit or as souvenirs. When first discovered, the *Saphire* was covered in a layer of intact Iberian storage jars, but by the time of Parks Canada's 1977 excavation, none were visible on the surface of the site. Fortunately, the thick layer of silt and the heavy guns seem to have limited the further removal of buried artifacts by salvage divers (Barber 1977: 305). Over the years, some of the ceramic, glass and metal artifacts recovered by divers have been turned over to the provincial museum, but these lack specific contextual information.

Artifact Conservation

Artifact conservation is a costly requirement for any underwater

archaeological excavation. After centuries buried in anaerobic sediments, organic and inorganic materials reach a state of relative equilibrium. When a wreck site is disturbed, processes of decay are resumed, making it necessary to intervene to stabilize the artifacts and conserve them for the long term, which can take many years to complete at significant cost.

During Parks Canada's excavation, a field laboratory was established in a fishing shed near the site, where cataloguing and initial conservation were undertaken. The Parks Canada collection was brought to Ottawa for final conservation treatment. Typical treatments included desalinization, casting and mechanical removal of concretions, cleaning, controlled drying using solvents, and consolidation. Most of the ceramics and pipes required only desalination, but additional consolidation treatment was required for the tin-glazed earthenwares. Glass objects were often laminated and were challenging to treat. Organic materials, metal and composite objects also required consolidation. The casting of iron concretions led to important discoveries in the laboratory, including the casting of a French flintlock musket mechanism with a visible maker's mark.

The hull remains were left in situ, since it was intended that further archaeological excavation would be completed over subsequent fieldwork seasons. The exposed remains were covered with sandbags in 1977 and 1985 to protect the sediments from collapsing and to help create an anaerobic environment for continued preservation. Recovery, conservation,

and long term storage of these timbers would require significant funding, which was not available at the time the preliminary archaeological investigations were undertaken.

Material Culture Analysis

Researchers in the Material Culture Section at Parks Canada undertook initial identification and preliminary analysis of the finds from the 1977 excavation, including the following studies: Chuck Bradley (ship's fittings and rigging); Douglas Bryce (weapons and weapon hardware); Stephen Cumbaa (faunal remains); Stephen Davis (clothing and shoes); Phil Dunning (domestic metal and wood objects); Gérard Gusset (ceramics); Olive Jones (glass analysis); Brad Loewen (cooperage); Bruce Morton (hardware and tools); Virginia Myles (bricks, tiles and tin-glazed earthenware); Antony Pacey (preliminary glass identification); Clarence F. Richie (clay tobacco pipes); Lester A. Ross (tools and wooden containers); and Catherine Sullivan (health and hygiene). These studies primarily resulted in inventory-like reports that include brief descriptions of the objects and a preliminary indication of their function, origin and date. Virginia Myles prepared a descriptive summary of the Parks Canada collection based on these studies, which unfortunately was never published.

Illustrations of selected artifacts were prepared by Carol Piper, Dorothea Kappler, and Steve Epps, and most of the artifact photographs were taken by Rock Chan. In 1979, the National Film Board of Canada produced a

short film titled “The Mystery of Bay Bulls,” about Parks Canada’s work on the *Saphire.*

While research was conducted intensively on the finds immediately following Parks Canada’s field season in 1977, little additional research has been undertaken on the *Saphire* since that time. In 2002, Matthew Simmonds wrote a 90-page thesis on the *Saphire* in fulfillment of a Master’s degree at the University of Bristol, which synthesized previous work undertaken by NMAS and Parks Canada and provided further historical context. The *Saphire* was included in a study by Marc-André Bernier (2003) that examined known 17th- and 18th-century shipwrecks within the context of the French and English struggle for control of the Gulf of St. Lawrence. Researchers from Memorial University of Newfoundland have used the collection from the *Saphire* for comparison with the material culture from other 17th-century sites in Newfoundland, particularly Ferryland. For example, a study of Portuguese redwares undertaken by Sarah Newstead (2008) included artifacts associated with the *Saphire* held in the collection at The Rooms.

Comprehensive analysis of the distribution of and vessel counts for the material culture recovered from the *Saphire* remains to be completed. Ideally, minimum vessel counts could be determined by combining the collections recovered by NMAS in 1974 and by Parks Canada in 1977 in order to identify any cross mends and to group sherds from similar vessels. This is complicated by the current disposition of these two collections in two

repositories. While minimum vessel counts could be calculated separately for the two collections, it can be expected that these would be less accurate. In addition, it would be useful to compare objects from the Parks Canada collection with those from the three underwater sites in Bay Bulls that cannot be confidently linked with the *Saphire*, including ChAe-2, ChAe-6 and ChAe-9 to identify any cross mends or identical artifacts that can be reasonably attributed to the *Saphire* on the balance of probability. For example, artifact ChAe-2:44, recovered underwater by NMAS, is the complete base of a small Portuguese redware handled cup with cross-hatch decoration that is identical in ware type, form, size and decoration to several small redware cups with handles and criss-cross decoration recovered by Parks Canada that are catalogued as 18M38N13-2, 18M40M2-1, 18M48L20-1, 18M48L27-3, 18M48L29-4, and 18M48L34-5 (Figure 7).

Figure 7: 18M40M2-1, one of several identical small Portuguese redware handled cups with criss-cross decoration recovered from the *Saphire*. (Courtesy of Parks Canada)

CHAPTER 3: THE ROYAL NAVY IN THE 17TH CENTURY

English Seapower in the 17th Century

Warships made possible the exchange of people, goods, wealth and ideas across the Atlantic. Ships, shipping and mariners were fundamental to the expansion of the English empire and to the competition between the European states for control over maritime trade. As England expanded its colonial empire, it needed more powerful naval forces in order to control sea lanes and protect trade with its colonies in North America, the West Indies, the Mediterranean and India (Hornstein 1991: 53-96; Davies 1995: 76). War was disruptive to the efficient operations of the shipping industry, leading to the implementation of a system of naval convoys and patrols to provide protection for English vessels engaged in overseas trade from privateers and corsairs (French 1995: 16). At the same time, the capture of foreign warships and merchant ships as prizes was a lucrative venture for the officers and mariners involved and provided a source of supplementary revenue for the England.

This study situates the wreck of the *Saphire* within the social, political and economic context of late 17th-century England in order to better understand the specific circumstances and objectives under which the ship was constructed and operated. This was a period of rapid advancement in naval technology and the professionalization of administrative systems, which supported increasingly complex naval power (Glete 1985: 257). Over the

course of the 17th century, the Royal Navy developed from a loose conglomeration of merchant ships adapted for use as warships to a large purpose-built and heavily armed fleet supported by a complex system of communication, provisioning and labour. The practice of hiring merchant vessels to serve as warships declined during the 17th century as naval warfare became more specialized. By the end of the century, merchant ships were hired only to serve as bomb vessels, fireships, small cruisers and transports (French 1995: 16).

The large shipyards and purpose-built warships required to support the Stuart monarch's political objectives for the Royal Navy represented a massive capital investment on the part of the Crown and of Parliament. The navy was supported by a large labor force that included administrators, shipwrights, specialized craftsmen (such as sailmakers, riggers, anchor smiths and mast makers), suppliers and labourers, as well as the officers and mariners that sailed on the vessels. No other enterprise of the pre-industrial era employed a comparable workforce to that of the Royal Navy (Davies 2008: 33).

The Navigation Acts and the Anglo-Dutch Wars

The First Navigation Act was passed in 1651 with the intention of safeguarding the financial proceeds of overseas trade on behalf of the English merchant shipping industry by limiting the participation of foreign vessels, including those of the highly efficient Dutch shipping industry

(Hornstein 1991: 43; Davies 2008: 16). The act stipulated that English and colonial trade could only be carried in vessels built in England or the colonies, and specified that at least three-quarters of the crew had to be English (French 1995:12). The rules were not strictly enforced, and Dutch trade with England continued mostly undisturbed.

Following the Restoration in 1660, the Second Navigation Act was passed, which required that certain products imported from the colonies, such as sugar and tobacco, had to first be shipped to England or an English colony before they could be re-exported to the rest of Europe (Hornstein 1991: 43). This resulted in the bulk of goods passing through London (Zahedieh 1994: 247). Due to its perishable nature, cod from Newfoundland was exempt from this requirement, resulting in the triangular trade routes in which the ships departing from Newfoundland sailed directly to Portugal and Spain before returning to England. In 1672, further legislation was passed requiring that goods passing from one colony to another be routed via England, leading to resistance from the colonists and widespread smuggling.

The Anglo-Dutch Wars of 1653-1673, a series of three wars fought primarily in the English Channel and the North Sea, were a direct reaction to the Navigation Acts. During this period, a new approach to war at sea emerged that was based on the line of battle formation, leading to an increase in the size of naval vessels, which were now designed primarily to act as gun platforms for broadsides of heavy armament.

Charles II (1660-1685)

Following the Restoration in 1660, the strength of the Royal Navy grew steadily and the service became more efficient and professional over the course of the 17th century. Charles II (Figure 8) was well-known for taking a direct personal interest in the operation of the Royal Navy (Davies 2008: 19). Charles II appointed his brother James (the Duke of York and later James II) to the position of Lord High Admiral (Figure 9), in which capacity he commanded the Royal Navy during the Second (1665-7) and Third (1672-4) Anglo-Dutch Wars (Davies 2017: 97-104).

Figure 8: Portrait of Charles II by Peter Lely, circa 1670.
(National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/

Figure 9: James, Duke of York, painted by Henri Gascar in 1672-1673.
(National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/

Although England was no longer at war, at the urging of Samuel Pepys, Parliament approved the building of 30 new ships in 1677, including one First Rate, nine Second Rates, and twenty Third Rates (Fox 1980: 154; Davies 2017: 76). Charles II found the initial design of the new ships approved by Parliament to be insufficient, and paid for increases to the size of each vessel from his own pocket (Fox 1980: 156; Davies 2017: 76). To simplify maintenance, the masts, spars, rigging, fittings and ordnance for each rate was standardized. Detailed lists outlining the costs of building these 30 ships represent one of the first administrative attempts at standardizing and controlling naval design (Lavery 1981:8; Davies 2017: 76). Pepys asked the Navy Board to set out current prices because “all things, both labour and

commodities will rise upon so great an undertaking, and other occasions of charge magnified beyond what can now be judged" (Tanner 1903: 382).

James II (1685-1688)

In 1685, upon the death of Charles II, the Duke of York acceded to the throne as James II. Finding the fleet to be in severe decline, Samuel Pepys proposed a special commission to supersede the old Navy Board and undertake repairs, construct new ships and reorganize the royal dockyards (Johns 1925: 189; Lavery 1981:8). Between 1686 and 1688, the commission repaired and rebuilt 66 ships and vessels, and built an additional four new Fourth Rates. This was the fleet that James II used in 1688 to oppose the invasion of William of Orange.

A lack of support for with James II's civil and religious policies increased steadily and eventually weakened the loyalty of much of the Royal Navy. When the Catholic James II lost the support of Parliament, the Protestant William of Orange, Stadholder of the Netherlands was invited to invade England and to take over the throne jointly with his wife Mary. Mary was the daughter of James II and had married her cousin William and left England to live with him in the Netherlands.

William III (1689-1702) and Mary II

On November 5, 1688, William landed at Torbay in Devon with 14,000 troops and a significant cavalry force. Figure 10 is a portrait of William showing the combined Anglo-Dutch fleet in the background, with men rowing

in boats while their horses swim to shore.

Figure 10: Portrait of William III landing at Torbay on November 5, 1688, by Jan Wyck. (National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/)

As the Glorious Revolution succeeded, James II escaped to France just before Christmas in 1688, where Louis XIV vowed to help him regain the Crown. William III and Mary II were declared co-regents in February 1689. The first year of their reign marked the beginning of a period of conflict with the French that continued into the 18th century. King William's War (1689-1697), as it is usually referred to in North America, is also known as the Nine Year's War, the War of the League of Augsburg or the War of the Grand Alliance. It is sometimes referred to as the first global war, with fighting taking place not only in Europe, but also in theatres in North America and India.

The conflict was a reaction to Louis XIV's growing power in France and his increasingly aggressive expansionist policy in central Europe. A Grand Alliance of the Holy Roman Empire, led by Austria and including England, the Dutch Republic, Spain, and Savoy created the League of Augsburg for mutual defense against France. England formally declared war on France on May 7, 1689 (Ehrman 1953: 245).

Although William III's naval forces consisted of the combined English and Dutch fleets allied against the French, early on in the conflict England experienced a significant disadvantage against the French navy. England had not fought a major naval battle since 1673 and since then had enjoyed a 16-year period of relative peace, which had allowed the larger vessels in the fleet to fall into disrepair (Harding 1995: 102). France, on the other hand, had fought successful sea battles against the Spanish in 1674 and the Dutch in 1678. However, despite their arguably better maintained and more experienced fleet, the French navy also faced some challenges. Louis XIV was focused on continental power and chose to invest in focus on supporting a large land force, leaving the navy to fight for adequate funding and supplies. With two coasts to defend, France divided the naval fleet into two, the Atlantic and Mediterranean forces, further weakening its power (Potter 1965: 35).

At the beginning of King William's War, France was dominant, with its newer and more powerful fleet. The output of its naval shipyards surpassed that of England and Holland combined. Nevertheless, the French navy

suffered significant losses at the battles of Barfleur and La Hogue, leading them to change tactics. Instead of actively engaging in naval warfare with large ships of the line, the French began targeting commercial shipping using the smaller warships in their fleet (Harding 1995: 104), forcing the Royal Navy to further develop its convoy and patrol systems.

As the war between England and France spread across the Atlantic, small clashes took place in Hudson's Bay, Newfoundland, New England, and the Caribbean. For the most part, these involved local militias and had limited effect on the larger conflict. In 1689, an ambitious French attack on New York was planned, with 1600 troops set to travel down Lake Champlain and the Hudson River to rendezvous with two warships outside New York. The plan was abandoned as impractical, with the French opting instead to conduct localized surprise attacks on English colonial settlements and outposts.

In turn, the colonists of New York and Massachusetts raised militias and impressed ships to invade New France via the St. Lawrence River and Lake Champlain. The only formal English military actions in North America took place in 1690 and consisted of a raid on Port Royal and the Battle of Quebec. While the English succeeded in capturing Port Royal, the planned two-pronged attack on Quebec failed, when troops marching overland were unable to cross Lake Champlain as they did not have any boats. The naval force, led by Sir William Phips of Massachusetts, sailed from Boston for Quebec in 1689 with 34 ships and a militia of 2,200 men, but was unable to

take the city and returned home in late November, with several vessels foundering in the St. Lawrence, including the *Elizabeth and Mary* discussed in Chapter 1.

The Treaty of Ryswick in 1697 brought a period of peace that lasted until the outbreak of Queen Anne's War in 1702.

Naval Administration

The Admiralty was a political organization, made up of the Lords Commissioners under the First Lord of the Admiralty, that made strategic decisions about the deployment of the Royal Navy. In contrast, the Navy Board was a civilian administrative body composed of officers and civilians, including the Treasurer, Comptroller, Surveyor, Clerk of the Acts and three Extra Commissioners (Winfield 2009: xxii). The Board was responsible for the construction of ships and for the operation of the dockyards. Its members met at regular intervals in London, and visited the dockyards from time to time.

Resident dockyard commissioners were appointed to carry out the instructions of the Navy Board, while the master shipwrights supervised all of the workers involved in the construction and repair of the ships (MacDougall 1989: 4). The Master Attendant at each of the dockyards was responsible for ships in the harbour that were laid up "in ordinary," meaning that that they were removed from active service and placed in a state of partial decommissioning until required to be returned to the sea service. The Clerk of

the Survey managed the stores for ships in ordinary, the Storekeeper managed dockyard supplies, and the Clerk of the Cheque oversaw the payment of wages (MacDougall 1989: 4-5).

Samuel Pepys and Anthony Deane

Samuel Pepys (Figure 11) was appointed as Clerk of the Acts in 1660, and as Secretary to the Admiralty in 1673. Sir Anthony Deane (Figure 12) was arguably the best known English naval architect and shipwright of the 17th century and was the builder of the *Saphire*. The careers of the two men became closely intertwined after they met in 1662, when Deane was still assistant shipwright at Woolwich dockyard. Deane promised to teach Pepys how to properly measure timbers so Pepys could understand how the King was being taken advantage of in the measuring of timber and boards, an abuse that he was determined to correct.

Figure 11: Portrait of Samuel Pepys by Godfrey Kneller circa 1689.
(National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/)

Figure 12: Portrait of Sir Anthony Deane by John Greenhill circa 1670.
(National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/)

On June 6, 1663, Pepys's diary included the following passage: "This fellow Deane is a conceited fellow, and one that means the King a great deal of service, more of disservice to other people that go away with the profits which he cannot make; but, however, I learn much of him, and he is, I perceive, of great use to the King in his place, and so I shall give him all the encouragement I can" (Pepys 1825). Indeed, the two men became friends and Deane appears frequently in Pepys's diary entries thereafter, including on a number of occasions when the assistant shipwright instructed the Clerk of the Acts in the design and construction of ships, which he was eager to learn. At various meetings, Deane provided Pepys with a ship model and a draught of a ship and taught him the method of drawing a ship's lines.

In response, Pepys appears to have used his influence to advance

Deane's career (Johns 1925: 65). By the fall of 1664, England was preparing for another war with the Dutch, and Pepys recommended the reopening of the royal yard at Harwich, appointing Deane as Master Shipwright (Johns 1925: 169). The ships built there by Deane, including the *Rupert* and *Nonsuch* received the notice of Charles II and were noted as being among the fastest sailers in the fleet. In his diary entry of July 15, 1668, Pepys called Deane's new ship the *Resolution* "the best ship, by all report, in the world" (Pepys 1825). In 1674, Charles II requested that Deane construct two small yachts as gifts to Louis XIV, and Deane was sent to France to oversee their launching on the lake at Versailles (Johns 1925: 183). When Peter the Great of Russia visited England in 1698, he received instruction from Deane in the art of shipbuilding, and Deane sent his son to accompany him to Russia, where he died the following year (Johns 1925: 192).

In 1669, Pepys mentions "getting a book for [Deane] to draw up his whole theory of shipping, which at my desire he hath gone far in and hath shown me what he hath done therein to admiration" (Pepys 1825). This manuscript has survived in the Pepysian library and was published by Brian Lavery in 1981 under the title of *Deane's Doctrine of Naval Architecture.* Deane was not alone in publishing theoretical treatises on shipbuilding in the late 17th century. Beginning in 1678, Edmund Bushnell published multiple editions of *The Complete Ship-Wright*, which explained both geometrical and mathematical principles for designing the draught of a hypothetical ship with a

length of 100 feet of keel. Also notable are Thomas Miller's *The Compleat Modellist* (1676), John Seller's *The Sea Gunner* (1691), and William Sutherland's *The Shipbuilder's Assistant* (1711).

One of the objectives of Deane's *Doctrine of Naval Architecture* was to standardize shipbuilding by establishing appropriate proportions of ships of different ratings, not for the shipwrights themselves, but for the bureaucrats like Pepys who supervised their construction (Lavery 1981: 21). Both men were interested in regularizing ship types and sizes to create better naval fleets. As previously discussed, in 1677, Pepys directed that English ships were to be built with a uniform design, tonnage and armament.

After the resignation of the Duke of York from the position of Lord High Admiral, both Pepys and Deane were imprisoned in the Tower of London on charges of treason, after being accused of sharing sensitive information with the French. In the absence of evidence, both were freed in February 1680 (Johns 1925: 188; Lavery 1981: 8). Pepys and Deane both then left the naval service, with Deane continuing as a private shipbuilder between 1680 and 1686.

In 1684, Charles II recalled Pepys to the position of Secretary of the Admiralty, and the latter was disturbed to find that the larger warships that had been laid up in ordinary were in poor condition, leading to the establishment of the special commission of 1686-1688 (Davies 2017: 221). In establishing the commission, Pepys insisted that "the services of Sir Anthony

Deane shall be secured at all costs, whose talents for this service seem to me (through every part of it) so much superior to all I have ever yet met with in the Navy" (Johns 1925: 189). However, Deane at first declined to take up the post, demanding that the salary be doubled to cover the salary he would lose from shipbuilding (Lavery 1981:8). Deane presumably received his money, as he was appointed to the commission, where he was given the specific responsibility for the repair of the thirty ships built as part of the 1677 program. During this period, Pepys and Deane essentially had direct control over the naval service, with Pepys being Secretary of the Admiralty and Deane acting as the virtual Comptroller and Surveyor of the Navy (Johns 1925: 190).

Following the Glorious Revolution, Pepys and Deane's close relationship with James II was viewed suspiciously by the new co-regents (Lavery 1981: 9). A warrant for their arrest on suspicion of treason was issued in May 1689, although they were only arrested in June 1690 as part of a purported Jacobite plot (Johns 1925: 191). John Evelyn's diary records a dinner with Pepys and Deane on March 7, 1690, where the men discussed "the sad condition of the Navy as now governed by inexperienced men since this Revolution" (Evelyn 1901: 300-301). They were released from custody in the fall of 1690 but neither returned to the naval service.

17th-Century Naval Construction

Until about the mid 17th century, English warship design was for the most part based on empirical observation of existing vessels and the imitation of successful designs. During this period, the English often copied the designs of captured Dutch and French vessels that were considered to be effective. In theory, a good shipwright could use either theoretical or empirical approaches to design an effective warship. In practice, many of the shipwrights of the 17th century relied on practical experience rather than theoretical knowledge of ship design (Lavery 1981: 21), which lead to significant variability in the dimensions of ships of the same rating.

Charles II was interested in standardizing naval vessels, and encouraged all shipwrights to learn the theoretical design approach taught by Deane and others. On August 2, 1675, Phineas Pett, Master Shipwright at Woolwich, wrote to the Navy Board as he prepared to bring the *Saphire* on shore to be tallowed to inform them that

> I did on Saturday (supposing we should have brought the Saphir on shore this morning) send a letter to the Master and Warden of the Company of Shipwrights advertising them that it was your Honour's desire they should be made acquainted with the time of the bringing the said ship on ground that they might see the measurement of the same. (TNA ADM 106/315/318)

The Establishment of Dimensions laid out in 1677 prescribed the dimensions of each rate of warships with the intention of creating groups of vessels with predictable qualities that would form more effective fleets. The

establishment included lists of dimensions and scantlings for each rating of ship and the Admiralty directed that they be strictly followed by the shipwrights in the royal dockyards. The prescribed dimensions appear to have been developed directly by Anthony Deane, who was then Comptroller of the Victualling Accounts, and was charged with assisting the Surveyor with the design and construction of warships. The dimensions laid out in the establishments correspond closely with the measurements of the ships Deane designed (Johns 1925: 186). However, the establishments led to complaints from other shipbuilders that they constrained creativity and innovation in favour of consistency in reproducing successful design standards.

The scarcity of timber suitable for shipbuilding plagued the Royal Navy during the 18th and 19th centuries was already a concern around the time the *Saphire* was built in 1675 (Fox 1980: 14; Lavery 1981: 8). Albion (1926) has examined the relationship between English foreign policy, the availability of timber supplies, and naval building programs in response to domestic and overseas political developments.

The Rating System

In the 1640s, a rating system for Royal Navy warships based on the pay scale for officers was first introduced (Fox 1980: 20). The rating system later became directly correlated with the number of guns on the ship, which generally increased over time. There were six ratings, with the largest ships

being the First Rates (Fox 1980: 20). Unrated ships included fireships and bomb vessels. Each rating had two or three establishments for the number of men and guns carried during wartime in home waters and for the number of men and guns carried during peacetime or while on overseas duty.

First Rates and Second Rates were only used within European waters during the late 17th century. Third Rates were frequently sent to the West Indies, and less frequently to North America, except as part of a squadron dispatched for a specific purpose (Miles 2000: 8). Convoy, station and patrol duties were primarily assigned to the Fourth, Fifth and Sixth Rates. The smaller sloops and fireships were also used by the Royal Navy for multiple purposes, including cruising and convoys.

The Rise of the Frigate

Vessels like the *Saphire* belonged to the smallest ratings of warships – the frigates – which was a general term to describe any of the small warships from the Fourth Rates to the Sixth Rates (Figure 13). As Hornstein (1991: 54) has noted, the principal function of the navy between the end of the Anglo-Dutch wars and the beginning of King William's War was to protect English merchant shipping outside home waters through convoy and patrol duties. Small, fast vessels that could operate independently and swiftly sail long distances were essential to protecting the Mediterranean trade routes and to expanding England's empire in North America and India. The main convoy routes included the Mediterranean, North America, the Caribbean, and the

Levant, while squadrons regularly patrolled the Channel, the Soundings and the Straits of Gibraltar (Hornstein 1991: 54).

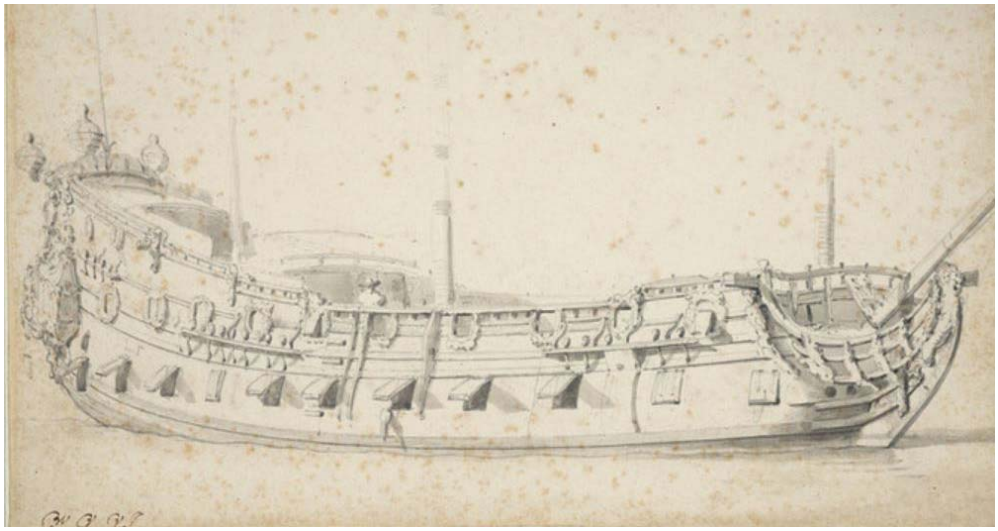


Figure 13: The *Phoenix,* a typical frigate built by Anthony Deane and launched in 1671 as a Fifth Rate. It is shown here converted to a Fourth Rate in 1675, with the addition of gun ports in the waist of the ship between the quarterdeck and forecastle.
(Willem van de Velde the Younger; National Maritime Museum, Greenwich, London)

Frigates and sloops were used to send express dispatches, suppress smuggling and piracy, patrol coastlines, and escort merchant ships. During large battles, they were also used in the fleet to support the larger ships of the line, where they provided strategic and tactical reconnaissance and conveyed signals. Admiral Horatio Nelson referred to them as the “eyes of the fleet” (Gardiner 2000: 157).

In John Evelyn’s diary entry of March 7, 1690, he reported that Anthony Deane had

> mentioned what exceeding advantages we of this nation had by being the first who built frigates, the first of which ever built was … “The Constant Warwick” and was the work of Pett of Chatham, for a trial that would sail swiftly; it was built with low

> decks, the guns lying near the water, and was so light and swift of sailing, that in the short time he told us she had, ere the Dutch war was ended, taken as much money from privateers as would have been laden her; and that more such being built, did in a year or two scour the Channel from those of Dunkirk and other which had exceedingly infested it. (Evelyn 1901: 301).

There was no definitive model for a frigate during the 17th century, but rather the term was used to refer to a variety of ships with a range of characteristics. Gardiner (2000: 153) sees two separate lines of descent for the frigate: the first being the small ships that acted as ancillary tenders to large fleets, and the second being the somewhat larger cruising ships designed for protecting merchant fleets. While many naval historians, including Gardiner, have argued that the "true frigate" design did not come into being until the mid 18th century, it is clear that frigates were already being designed with this dual purpose in mind by the time of the *Saphire*'s construction.

Several frigates could be built for the same cost as a larger warship, meaning that their numbers multiplied more quickly. While Pepys lamented the poor condition of the First Rates and Second Rates, at a dinner with John Evelyn on March 7, 1690, Deane argued that it was a mistake to invest in larger warships, and that building frigates and fireships would allow the English to surpass the other European navies:

> He added that it would be the best and only infallible expedient to be masters of the sea, and able to destroy the greatest navy of any enemy if, instead of building huge great ships and second and third-rates, they would leave off building such high decks…

> the Prince who should first store himself with numbers of such fire ships, would, through the help and countenance of such frigates, be able to ruin the greatest force of such vast ships as could be sent to sea, by the dexterity of working those light, swift ships to guard the fire ships. He concluded there would shortly be no other method of seafight; and that great ships and men-of-war, however stored with guns and men, must submit to those who should encounter them with far less number (Evelyn 1901: 301-302).

Frigates had to be fast and maneuverable enough to outsail or capture enemy ships, while being able to carry enough provisions to stay on station for long periods of time, and soundly built to avoid the need to return to England for repairs for as long as possible. English-built ships were built with a deeper draught than their Dutch counterparts (which were designed to permit access to the shallow Dutch ports), which gave them a greater hold capacity and improved their ability to hold a course. Larger ships were built with two full decks, but smaller frigates like the *Saphire*, which carried 32 guns or less, usually had one and a half decks (i.e., the upper deck was open in the waist between the quarterdeck and the forecastle).

Ship design always represents a compromise between speed, capacity and strength, and each of these qualities was emphasized to a greater or lesser degree depending on the strategic priorities of the Royal Navy and the preferences of its builder. The earliest frigates were designed to fulfill a range of duties, which in later centuries began to be assigned to ships with specific designs for specific tasks. Frigates needed to combine speed, the ability to stay on course, maneuverability, strength, the ability to carry heavy guns and

the capacity to carry enough stores for long voyages. Unlike the larger rates, for which the ability to serve as platforms for heavy gun batteries was the overriding concern, sailing qualities were vital for frigates. While innovation was valued, the high costs of shipbuilding often caused the navy to favour more conservative and proven designs. Because frigates were smaller and cheaper to build, more experimentation was perhaps permitted in their design.

Naval engagements undertaken by frigates when cruising and convoying were very different from the strategies used in the line of battle and were more similar to earlier types of naval warfare that focused on incapacitating the enemy ship in order to capture it as a prize. When chasing prizes, the objective was to gain the weather gauge in order to come abreast of the enemy ship to facilitate grappling and boarding. Generally speaking, in these situations, guns were used primarily as a defense against or in preparation for boarding. The goal was to cause confusion amongst the opposing forces and to constrain the enemy ship's ability to maneuver and escape by disabling their rudder and damaging their rigging (Glete 2000: 36).

By the time that James II fled England in 1688, there were only two Fifth Rates in the fleet – the *Rose* and *Saphire* (Winfield 2009: 166). However, there were older Fifth Rates that had been reclassed as fireships, that were restored to Fifth Rates in 1689: *Pearl*, *Garland, Guernsey*, *Dartmouth*, and *Richmond*. In 1691, four other vessels that had been raised

to 42-gun Fourth Rates were reverted to 36-gun Fifth Rates (*Falcon, Sweepstakes, Nonsuch and Phoenix*). A new type of 40 to 44-gun Fifth Rates with two complete decks of guns started to be built in 1690, with the *Adventure* being the prototype for the class (Winfield 2009: 166).

CHAPTER 4: A BIOGRAPHY OF A FIFTH-RATE FRIGATE, 1675-1696

The *Saphire* had 21 years of active service prior to being sent to Newfoundland on convoy duty in 1696 to protect the English cod fishing fleet. Following Joyce's (2015a) arguments for understanding the entire itinerary of an object, it is important to consider the whole lifespan of the ship, and not only the last six months spent in Newfoundland, if we wish to understand its historical significance.

Following the example of Flynn's 2006 study of the 18th-century Royal Navy frigate HMS *Pallas,* an examination of the service history of the *Saphire* demonstrates the role that frigates played in 17th-century English naval policy, the duties and roles typically given to them, and the demands of maintaining an active duty naval vessel of the time. Most of the ship's career was spent cruising in the Mediterranean, engaged in chasing warships belonging to the Barbary corsairs, and capturing or assisting with the capture of several ships that were commissioned into the Royal Navy as prizes.

1674-1675: Construction and Fitting of the *Saphire*

The *Saphire* was one of several ships built by Anthony Deane as a private contractor at the royal dockyard in Harwich at the mouth of the River Orwell (Figure 14), along with the vessels *Harwich* and *Swiftsure* (Lavery 1981:8). Harwich, established in 1652 at the beginning of the Anglo-Dutch wars, was one of the smallest of the royal dockyards (MacDougall 1989: 9).

Figure 14: Map of British Isles showing locations visited by the *Saphire.*

The process of building a new warship began with an order issued by the Navy Board that provided the master shipwright with the prescribed dimensions of the desired vessel. The order for building the *Saphire* was issued by the Admiralty Board on September 16, 1674 (ADM 1/3546/214 in

Proulx 1979: 8). The design and construction of a ship in 17th-century England was a matter of negotiation between the shipwright, the carpenters, and the Navy Board. Within general parameters, ship designs were adapted to suit specific circumstances. Proportions and shapes were adjusted to reach an appropriate compromise between factors that included capacity, speed, maneuverability, stability, strength, cost, and availability of materials (Fox 1980: 12-13). Despite this inherent flexibility, once a successful design was developed for a specific purpose, efforts were often made to reproduce ships on the same model.

As master shipwright, Deane was in charge of the *Saphire's* construction from the laying of the keel to the fitting of the upper deck. The shipwright was responsible for acquiring adequate timber, in particular oak for the framing and elm for the keel and pumps. If sufficient seasoned timber was not readily available, any new timber would need to be left in the open to season. The keel would normally be laid on a slipway and then the framing and decks would be installed.

The *Saphire* was launched on a spring tide on June 29, 1675, and loaded with 40 tons of ballast (TNA ADM 106/311/217). Soon after the hull was launched, the *Saphire* was transferred to Woolwich dockyard where the finishing work was completed by Master Shipwright Phineas Pett, including glazing, tallowing, and the procurement of all of the other required fittings, provisions and supplies. The total cost of construction of the *Saphire*,

including rigging, was £4,175 (Winfield 2009: 166).

The *Saphire* was ready to enter the service after it had been outfitted with its masts, rigging, sails, anchors, as well as ballast, victuals, and a crew. At this point, the responsibility for the *Saphire* was passed from the dockyard to the Admiralty. When the ship returned home from periods of service abroad, it was again put under the authority of the relevant dockyard while undergoing repairs.

As built, the *Saphire* had the following dimensions, making it one of the larger Fifth Rates at the time (Battine 1684 in Barber 1977: 306):

> Length 89 feet (32.9 m)
> Breadth 26 feet (7.9 m)
> Depth 10 feet (3 m)
> Draught 12 feet 6 inches (3.85 m)
> Tonnage: 346 tons burthen
> Price for the hull: £2249
> Ordnance: 32 guns, consisting of 18 demi-culverins on the lower deck; 10 sakers on the upper deck; and 4 minions on the quarter deck.
> Complement: 135 men

The ship would have carried a maximum of 135 men during times of war when in home waters, 115 when outside home waters, and at least 90 during peacetime.

1675-1688: Convoy and Patrol Duty in the Mediterranean

Between 1675 and 1688, the *Saphire* was on almost constant convoy, squadron and patrol duty in the Mediterranean (Figure 15), briefly returning to England every two years or so to be repaired and refitted.

The *Saphire*'s first commission was issued on June 13, 1675, two

weeks before the ship was launched on June 29. Captain Thomas Harman was instructed to join Admiral Sir John Narbrough's expedition of 1675-1676 in the Mediterranean to protect English shipping from the Barbary corsairs. Before departing from Woolwich, Captain Harman asked the Navy Board to provide him with "French, Dutch and Turkish ensigns" (TNA ADM 106/311/233), which could be used to lure enemy ships in close for capture.

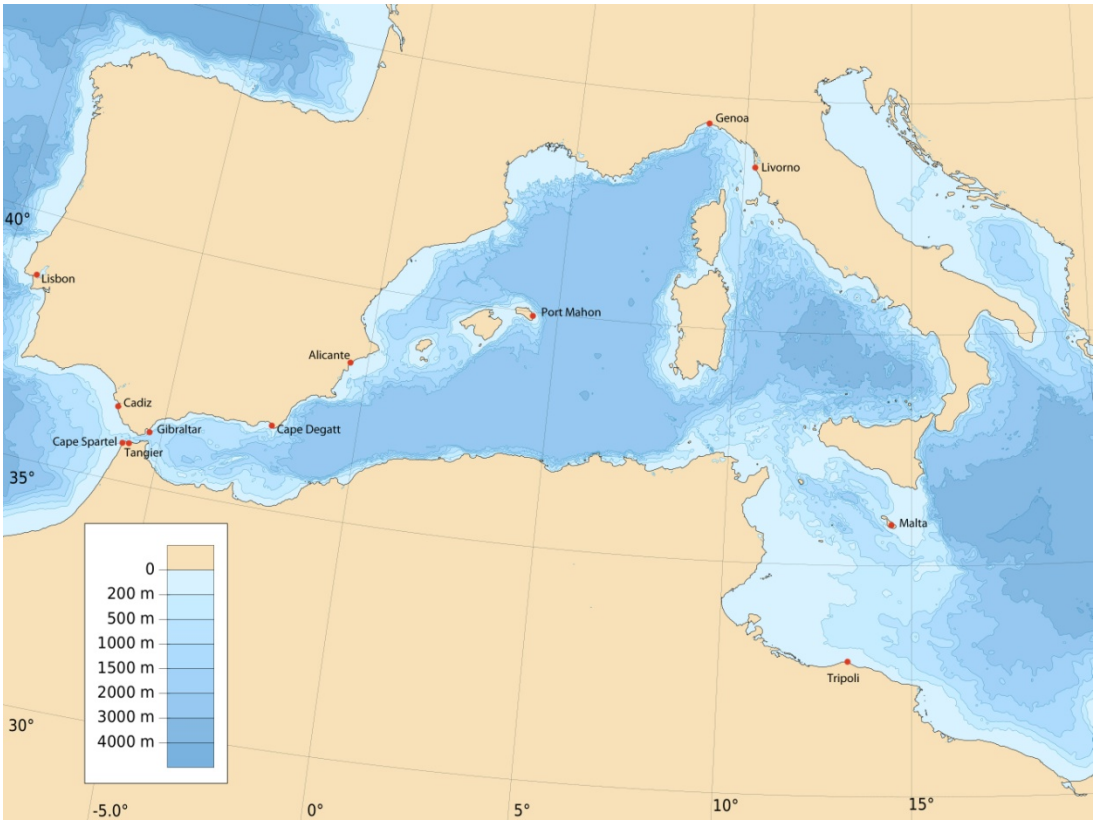


Figure 15: Map of the Western Mediterranean showing locations visited by the *Saphire.*

Merchant ships represented a concentration of valuable cargo and potential slaves that made them susceptible to attacks from privateers and corsairs. Some areas were very dangerous, such as the North African coast near the Straits of Gibraltar, the area known to the 17th-century English

mariners as the Barbary Coast (Figure 16). Under the convoy system, merchant vessels were required to acquire a pass for protection against the pirates of the Barbary Coast.

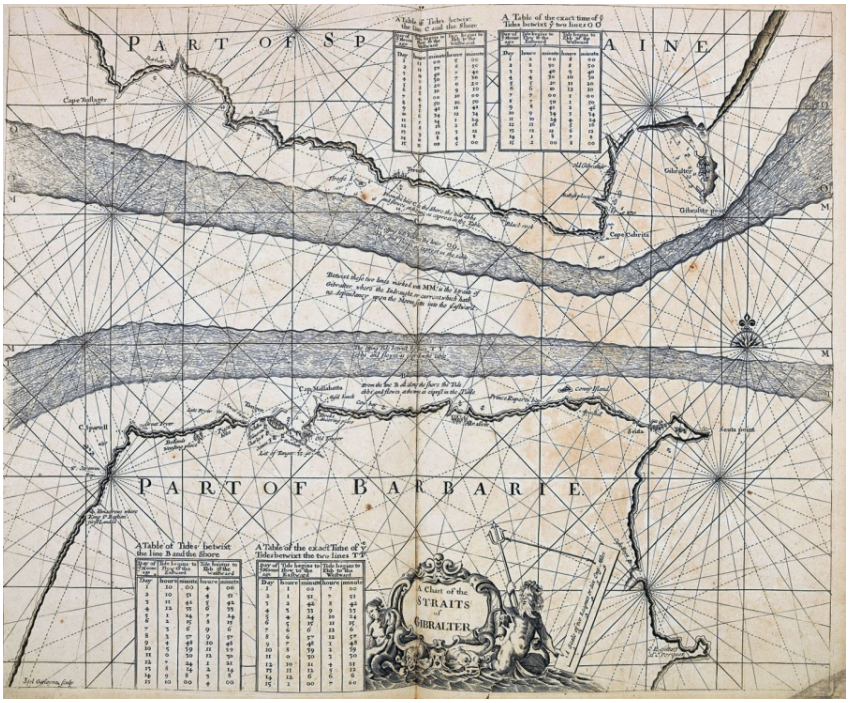


Figure 16: Chart of the Straits of Gibraltar published by John Seller ca. 1680.

The *Saphire* was one of the ships that participated in the English attack against Barbary ships in Tripoli in January 1677, under the command of Admiral Sir John Narbrough and lead by his lieutenant, Clowdisley Shovell (Campbell 1750: 327-328). Figure 17 is a painting of the event by Willem van de Velde the Younger, commissioned by James, Duke of York. The English warships moored outside the harbour at midnight, and Shovell lead the men in small boats into the harbour to set the enemy ships on fire.

Figure 17: *The Attack on Shipping in Tripoli, 24 January 1676* by Willem van de Velde the Younger. (Royal Collection Trust / © Her Majesty Queen Elizabeth II 2019)

On August 30, 1677, the *Saphire* captured the 28-gun Algerine ship *Date Tree* and, with the *Assurance*, also captured the 28-gun Algerine ship the *Orange Tree*, both of which were commissioned into the Royal Navy as prizes (Winfield 2009: 163).

On September 10, 1677, Captain Harman and 16 of his company were wounded or killed in an action with two Algerine ships, the largest of which was the *Golden Horse* with 46 guns and 200 men. According to Charnock (1794: 337):

> The *Saphire* mounted thirty-four guns; the Algerine, which was called the *Golden Horse*, forty-six; she was manned with a chosen crew; and being one of the finest ships in their navy, was commanded by the Dey's son, a man of approved intrepidity and conduct. Notwithstanding these powerful advantages the Turk wished to decline the contest and endeavoured to escape. His

> attempt was vain. The Tyger closing with her antagonist, captain Harman was shot through the reins [kidneys], of which wound he soon after died. Thus he did close a life of brilliant exploits, in which each act of gallantry rose, as it were, progressively beyond that which had preceded it, so that the fame he acquired by his death nearly obscured that which he had gained in his life.

The *Saphire'*s mainmast was shot away during the first broadside, and if a second Royal Navy frigate, the *Pearl,* had not appeared the vessel would have been almost certainly captured and the men on board enslaved. The *Pearl* towed the *Saphire* into Tangier, where Captain Harman died of his wounds several days later.

Clowdisley Shovell was promoted to captain of the *Saphire.* His logbook recording his service on the *Saphire* between September 11, 1677, and February 24, 1679, survives at the National Archives (TNA ADM 51/857). This was the first of many commands for Shovell, who was the son of a gentleman from Norfolk and who benefitted from the patronage of his prominent kinsmen, Sir Christopher Myngs and Sir John Narbrough (Tanner 1926: 390). Shovell eventually went on to become Rear Admiral of England, Admiral of the White, Lord High Admiral of England, Governor of Greenwich and the member of Parliament for Rochester (Figure 18). Admiral Shovell was commander of the homeward fleet in October 1707 when, due to a navigational error, four warships wrecked in the Isles of Scilly in Cornwall, with the loss of more than 1,600 lives, including his own (Larn 1995: 52). He was an admired public figure, and Queen Anne paid to have his body returned to London, where he was buried with great ceremony under an

elaborate monument in Westminster Abbey, in which he reclines on cushions wearing Roman armor and a wig.

Figure 18: Portrait of Admiral Sir Clowdisley Shovell by Michael Dahl in 1702.
(National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/)

The *London Gazette* of November 29 reported that on October 16, 1677, a squadron of four frigates cruising off of Cape Spartel in Morrocco, near the entrance of the Straits of Gibraltar, encountered seven Turkish men of war, and that the *Saphire*, outsailing the other ships, engaged for several hours with a ship mounting 40 guns and 400 men. The effort was abandoned at nightfall, but there was speculation that the enemy ship had been stranded

on a lee shore of the Spanish coast.

Following a second commission in the Mediterranean between 1679 and 1680, the *Saphire* returned to England in January 1680 under the command of Shovell, to undergo repairs at Deptford totaling £922.10.12 (TNA ADM 7/827/102). The ship was then resupplied at Portsmouth in June (TNA ADM 106/348/170).

The *Saphire* soon returned to the Mediterranean squadron to participate in a second campaign against the Algerian corsairs, this one led by Arthur Herbert between 1679 and 1683. The *London Gazette* of June 17, 1680, reported that the Earl of Plymouth and the Lord Mordant were on board the *Saphire,* bound for Tangier were they had been sent as volunteers to command the garrison. On September 9, 1681, the *Saphire* captured the 32-gun Algerine ship *Half Moon*, at Algiers.

Captain John Tosier took command of the *Saphire* at Portsmouth on July 11, 1686. He was sent soon afterwards to the Mediterranean, where in June 1688 he drove a corsair ship on to the shore. The *Saphire* returned from the Mediterranean with a convoy in May 1689, a few months after the Glorious Revolution.

1689: New England and Ireland

In 1689, the *Saphire* was sent to New England and to Ireland. Little naval correspondence between the commanders and the Navy Board survives from the period 1688-1698, so less is currently known about the

activities in which the *Saphire* was involved during that time.

1690-1691: Patrolling the Channel and the Mediterranean

In April 11, 1690, the *Saphire* was again commissioned for the Mediterranean under Captain James Killigrew. Until the fall of 1691, the *Saphire* alternated between short stays in the Channel and long voyages to the Mediterranean. In July 1691, the *Saphire* captured a large French privateer. After the autumn of 1691, and with the declaration of King William's War, the ship's activity was focused on patrolling the French coastline and protecting the English herring fleet along the coasts of Ireland and Norway from attack.

1692-1693: Portugal, Denmark and Ireland

During this period, the *Saphire* served as a patrol ship in Portugal, Elsinore and the Channel. In January 1692, the *Saphire* and the *Monk* captured two French ships between Guernsey and St. Malo (TNA ADM 106/420/7; Appendix D).

In 1693, the *Saphire* was again sent to Ireland under Captain Hovenden Walker, who would later go on to lead an ill-fated expedition to attack Quebec in 1711 during Queen Anne's War (see Lafrance 1972: 118-126).

1694-1695: Cruising the French Coast

In 1694, under the command of Captain Robert Wynn, the *Saphire* joined Admiral Lord John Berkeley's squadron which was intended to

undertake an ultimately unsuccessful attack on Brest.

In 1695, Berkeley renewed the English attacks on the French coast, and was joined by a Dutch Squadron. They shelled the city of St. Malo for two days under the command of Captain John Benbow. In August, Berkeley's squadron undertook an unsuccessful attack on Dunkirk and Calais.

1696: Convoy and Patrol in Newfoundland

Captain Thomas Cleasby took up his commission on the *Saphire* in December 1695, charged with convoying a fleet of merchant vessels from Ireland to Newfoundland. In early 1696, the *Saphire* was refitted in Portsmouth for the voyage.

CHAPTER 5: THE MATERIALITY OF THE *SAPHIRE*

Ship Structure

The hull of the *Saphire* is the largest and most complex artifact recorded at the wreck site, and its design and construction reflect the technological knowledge of ship construction in the late 17th century. The surviving portion of the *Saphire*'s hull is in good condition and represents the bottom of the ship, comprising the false keel, keel, floor timbers, first futtocks and keelson, as well as the outer planking, ceiling planking, sternpost assembly and pump box. Not enough of the ship structure was recorded to allow a full reconstruction of the vessel . However, while representing only a fraction of the original vessel, the surviving timbers have the potential to provide new information on naval architecture of the late 17th century if properly recorded and analyzed, particularly when combined with the documented knowledge of ship construction as recorded in *Deane's Doctrine of Naval Architecture* (Lavery 1981).

The following description of the structural remains uncovered by Parks Canada's excavations in 1977 is based on information about the hull remains in an unpublished descriptive report by Robert Grenier and Peter Waddell (1978).

Stern Section

The stern was the only area where structural features of the ship were fully excavated. The lower stern section of the vessel was well preserved, and the hull remains in this area were inspected and recorded in greater detail than in the midships and bow sections (Figures 19, 20 and 21). The assembly consists of portions of the keel, false keel, sternpost, inner sternpost, deadwood, and rudder.

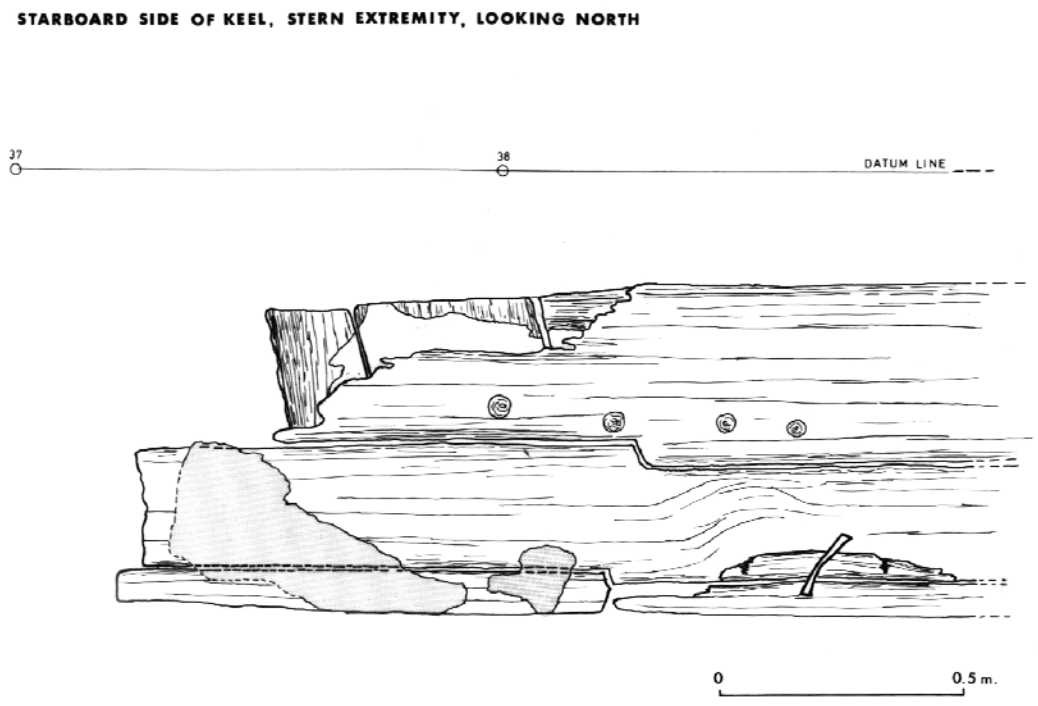


Figure 19: Drawing of starboard side of aft end of keel, looking north. Note repair to the false keel and keel and the staple holding the false keel to the side of the keel. (Courtesy of Parks Canada)

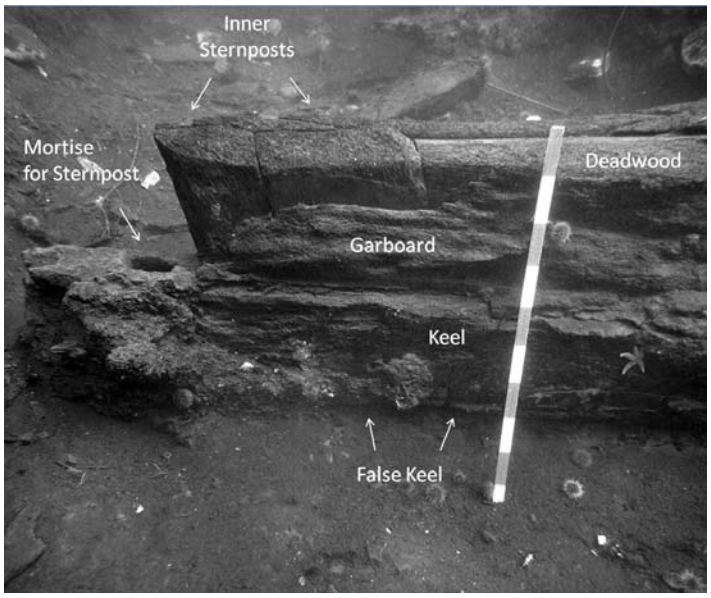


Figure 20: Photograph of starboard side of aft end of keel, looking north.
The measuring stick is 1 m. (Courtesy of Parks Canada, annotations by the author)

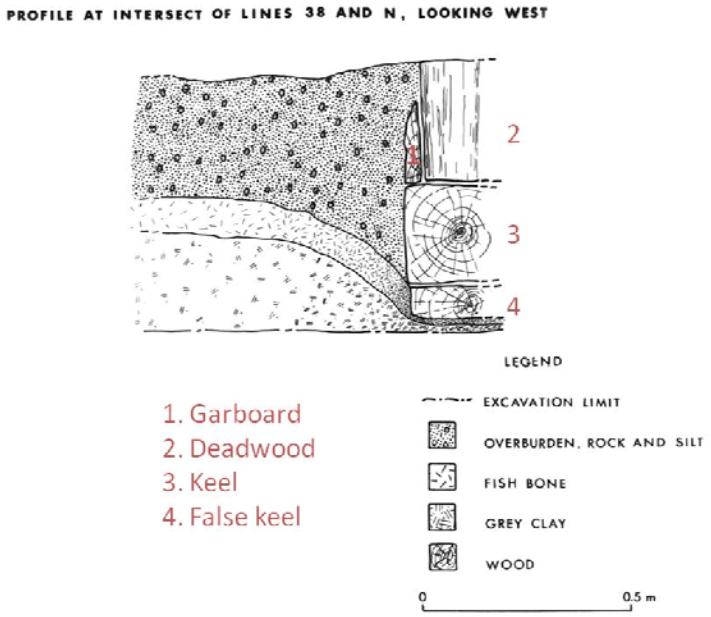


Figure 21: Section through the keel assembly near the stern.
(Courtesy of Parks Canada; annotations by the author)

The keel is assumed to be made of elm and measured 20 cm by 24 cm wide at the base of the sternpost. English elm was preferred for keel construction due to its durability in saltwater, but was not available in sufficient lengths in the 17th century, so keels were typically built using a number of shorter pieces that were scarfed and bolted together (Goodwin 1987: 5). The total surviving length of keel was found to be approximately 26 m (85 feet). The vessel was originally built with a keel recorded as 89 feet (approximately 33 m).

A contract for the construction of the Fifth Rate *Roebuck* in 1689 (McCarthy 2005: 78) specified that the keel was to be made of elm with a section of 12 inches square, with scarfs three feet long bolted and sealed with tar and hair, and fastened with spikes. The stern post was to be 24 inches fore and aft with a large knee under the rising wood, bolted through the keel and post with bolts of an inch in diameter, with two substantial iron stirrups (U-shaped reinforcing plates) on the keel and post bolted through the sternpost aft of the tenon on the sternpost that fits into the mortise on the keel.

The false keel served two purposes: as a protective layer to protect the keel during grounding and to increase the depth of keel to counteract leeway, or the sideways movement of a ship (Goodwin 1987: 7). It was typically secured with copper staples on either side of the keel rather than bolts or nails, so that the keel would not be as severely damaged if the false keel was

torn off during grounding. The false keel of the *Saphire* consisted of two sections of varying thickness and the archaeologists observed evidence of damage during recording in 1977. Further forward, a metal clasp secured another section of wood to the keel, to repair another damaged section of the keel, indicating to the archaeologists that the keel and false keel had suffered damage at the same time and were subsequently repaired.

In fact, testimony from Captain Cleasby preserved in the National Archives confirms that while in Newfoundland in 1696, he “had the misfortune to fall foul of a rock in the night and struck off 50 foot of my false keel and 20 foot of the main keel some of it within the garboard strake so that I was necessitated to careen her which I did at my own charge” (TNA ADM 106/516/142).

All that remained of the stern post assembly is the base of the inner portion to a height of 28 cm. A portion of vertical timber still attached to the aft end of the keel was uncovered which was more inclined than the stern post and had a tenon in the smaller mortise. This heavy timber is the lower portion of the false stern post. The typical rake aft of the sternpost in English ships was about 5 degrees (Goodwin 1987: 8).

The stern post assemblage fractured along the vertical rabbet line, the weakest point of this structure. It was further weakened by the joining of the garboard strake at the same level on the port side. The garboard strake is unusual in that it narrows from just ahead of the inner stern post with the

rabbet ending just before the keel where it met the base of the inner stern post. This appears to be a common method. Just one year after the launching of the *Saphire*, Phineas Pett built the *Charles Galley* in the same manner (Figure 22).

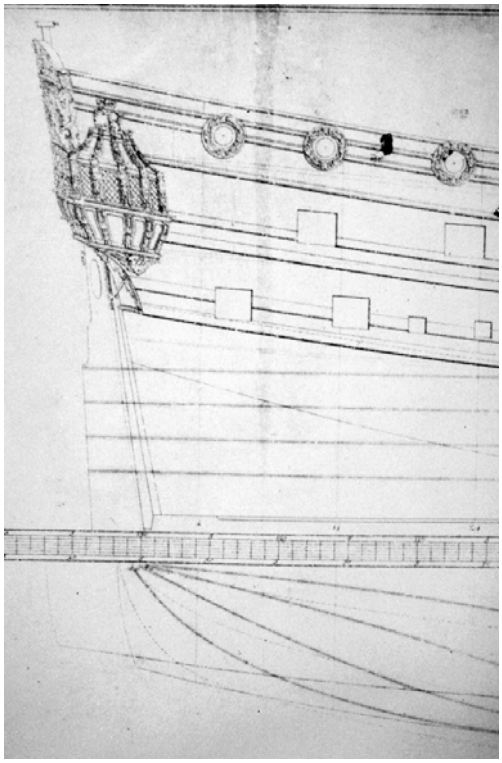


Figure 22: Detail of lines plan for the *Charles Galley* (1676) showing design of garboard rabbet at the stern. (Original in the collection of the National Maritime Museum, Greenwich, London; image courtesy of Parks Canada)

Little survives of the deadwood or rising wood, which was attached to the top of the keel to serve as a base for the narrow V-shaped floor timbers or crutches in the stern. The crutches and deadwood allowed for the narrowing of the stern below the water line, which was important for the handling and speed of the ship and for ensuring a smooth flow of water over the rudder for steering.

Midship Section

While this section of the hull was not fully excavated and studied, some details of construction were recorded. It was noted that the garboard strakes begin to flare out from the deadwood on each side in this area, suggesting that the ship may have had a sharp bottom as far forward as just aft of the midships. The floor timbers and first futtocks measure 24 cm by 24 cm, with nine frames recorded aft of the pump well. While preservation is poor on the starboard side, the surviving floor frames almost reach the turn of the bilge on the port side, where seven surviving first futtocks were recorded (Figures 23 and 24).

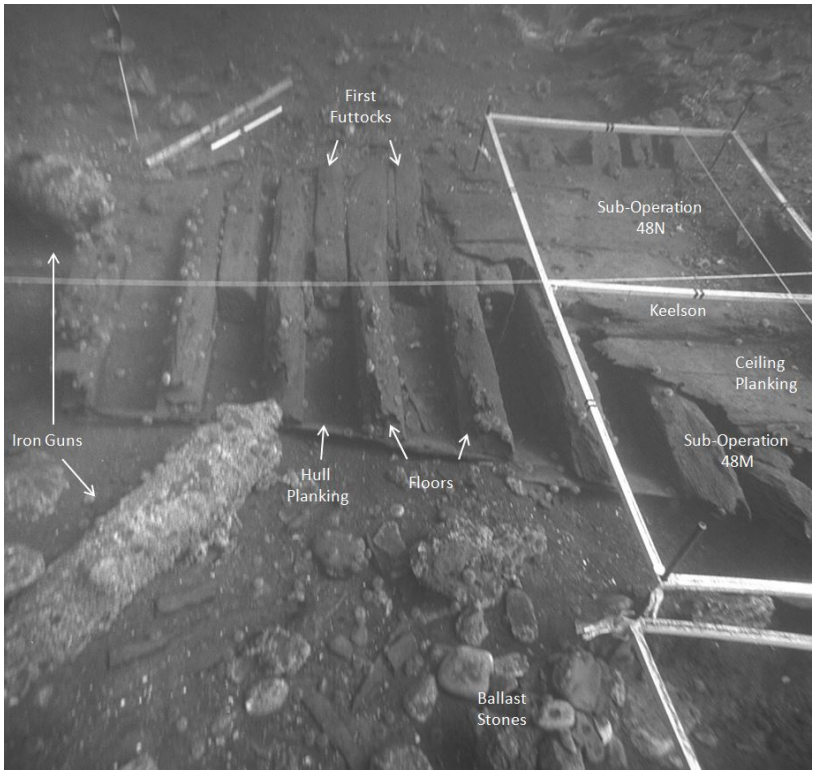


Figure 23: Photograph of the framing aft of the pump well, looking north.
Each grid square measures 2 m by 2 m. (Courtesy of Parks Canada, annotations by the author)

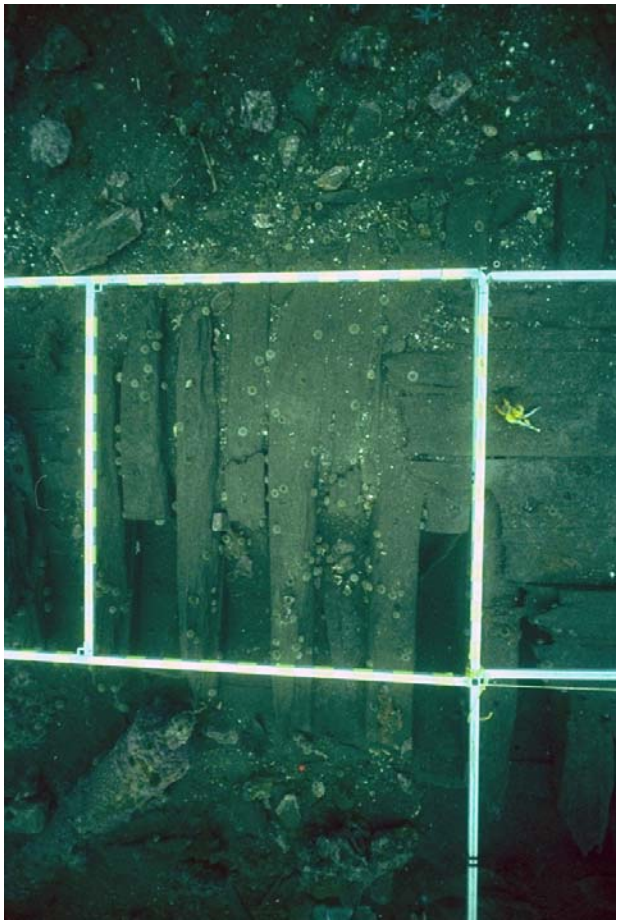


Figure 24: Another view of the framing aft of the pump well in Sub-Operation 46N. The grid square measures 2 m by 2 m. Note that there are no visible fastenings between the floors and futtocks. (Courtesy of Parks Canada)

Bow Section

Similar to the midships section, only a cursory investigation was carried out on the hull remains in the bow section in 1977. A cross-section of the frames at the turn of the bilge, which were found jutting up from the mud, was drawn. The forward end of the keelson was also recorded in sub-operation 60N (Figure 25).

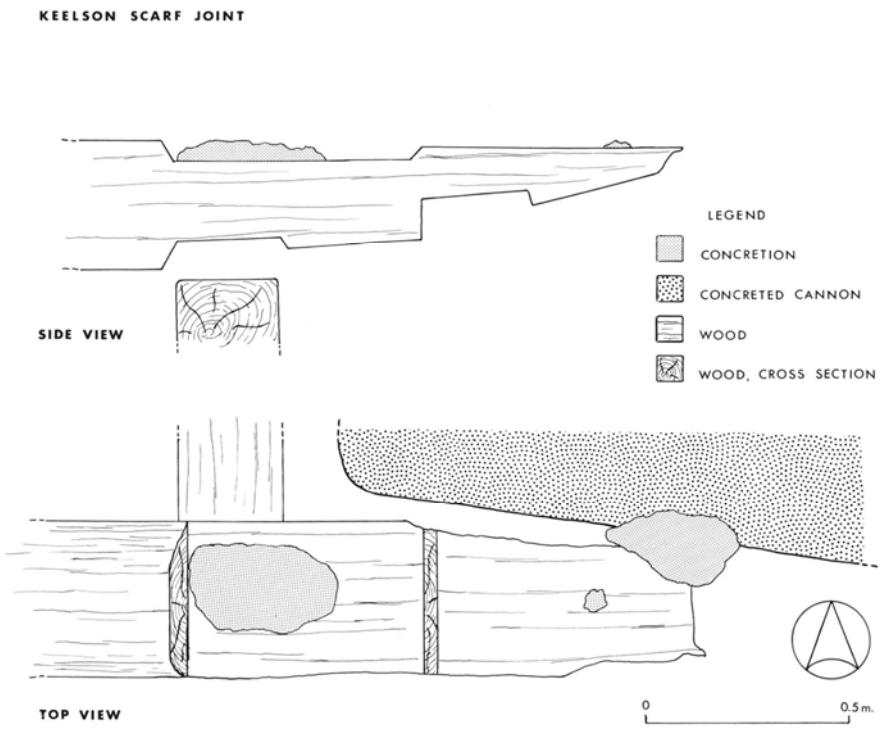


Figure 25: Details of the forward end of the keelson in Sub-Operation 60N. The lower face is notched to fit over the floors; the upper face has a hook scarf where it would have joined with the stemson. (Courtesy of Parks Canada)

Sheathing

In the years before the introduction of copper sheathing on naval ships, a number of measures were used to protect the hull of a ship against marine growth, which slowed the vessel down, and more importantly against damage from the shipworm (*Teredo navalis*), which quickly consumes all unprotected wood in warm waters. The *Saphire* was built at a time when the Royal Navy was conducting experiments with lead sheathing, which had been used successfully by the Spanish and Portuguese for many years previously.

An Act of Parliament in 1670 granted Sir Philip Howard and Francis Watson the exclusive right to mill lead for this purpose (Fincham 1851: 94). In March 1671, Deane launched the Fifth Rate *Phoenix*, which was the first English warship sheathed experimentally with lead (Johns 1925: 14). Between 1670 and 1691, 20 naval ships were sheathed with lead, which was attached to the hull with copper nails in an effort to prevent galvanic corrosion that could be caused by the use of the usual iron sheathing nails (McCarthy 2005: 102). The experiment was abandoned when it was found that the lead was causing severe damage to the rudder irons, putting the steering of these ships at risk. The *Saphire* is not named among those that were sheathed in lead, but the possibility exists that lead sheathing was used on the outer hull planking, which could be confirmed in the ship were fully excavated.

The more typical form of sheathing used on ships in the 17th century was a layer of sacrificial wood planking added outside the structural hull planks, which was intended to be replaced periodically (McCarthy 2005: 101). The remains of the *Dartmouth* showed evidence of pitch and horsehair on the outer planking, and a sheathing of light “deal” boards of fir or pine (Adnams 1974: 270). The addition of an extra layer of thick planks was also sometimes used to enhance or correct the stability of a ship in a practice called “girdling” that was used until the end of the 17th century (Lavery 1987: 60; McCarthy 2005: 101).

Scuppers

Installed on the sides of the upper decks, scuppers allowed water from the decks to drain out through the sides of the ship. A lead scupper liner was recovered from the *Saphire* by NMAS (Figure 26), and two similar lead pipes were excavated in 1977 from wreck site 19M, which may be from *Saphire* due to their similarity. Similar, but smaller, lead pipes would have also been used to drain the pisdales installed in the waist of the ship.

Figure 26: Lead scupper liner ChAe-1:173. (Photo by the author)

Similar scupper liners were found during the excavations of the *Dartmouth* and the *London*. The contract for the construction of the Sixth Rate *Bideford* in 1694 called for scuppers that were a little smaller than the one recovered from the *Saphire*, measuring 3 inches in diameter and

manufactured of “cast lead of eight pound to the foot square” (Goodwin 1987: 235).

Fasteners

Very few fasteners were recovered from the site. Only four brass tacks and three lead roves are found in the collection. The lack of surviving iron fasteners from the wreck reflects the vulnerability of ferrous artifacts to corrosion if exposed in seawater. It is likely that additional evidence of iron fasteners could be recovered from buried timbers and concretions from the wreck if future investigations are undertaken.

The four small brass tacks with flat heads had shanks with a rectangular cross-section that tapered to a point (Figure 27). Two tacks have lead remnants under their heads indicating that they were used to secure a lead rove or sheet. Brass tacks were also commonly used for attaching the flanges of the lead scupper liners to the deck and hull.

Figure 27: Brass tacks, note lead sheet under the head of the two on the left.
(Courtesy of Parks Canada)

Bilge Pump

An efficient pump was critical to the survival of the ship and the men on board, and would have been regularly and carefully maintained. Even well maintained wooden ships leaked constantly as the seams worked in heavy seas, loosening the oakum caulking.

Phineas Pett, Master Shipwright at Woolwich, outfitted the *Saphire* with a chain pump in July 1675 (TNA ADM 106/315/312, Appendix D). Also called a yard pump, the chain pump was the most common type of bilge pump used in Royal Navy ships during this period (Goodwin 1987: 138; Figure 28). It was first adopted by the Royal Navy in the last half of the 16th century, and was reported to be much more efficient and easier to repair than its predecessors, including the suction pump (Oertling 2007: 58).

Shot lockers were typically placed immediately forward and aft of the pump well around the main mast step (Lavery 1987: 150). Stowing the heavy iron shot low in the center of the hold helped to keep the centre of gravity of the ship low, which was important for stability and handling (Goodwin 1987: 126).

The pump well was typically constructed by placing four vertical stanchions around the main mast, between the ceiling planking below and the deck beams above. These were then planked with horizontal oak boards. The shot lockers were built in the same way, but were only built to 2/3 of the depth of the hold to provide access (Goodwin 1987: 126).

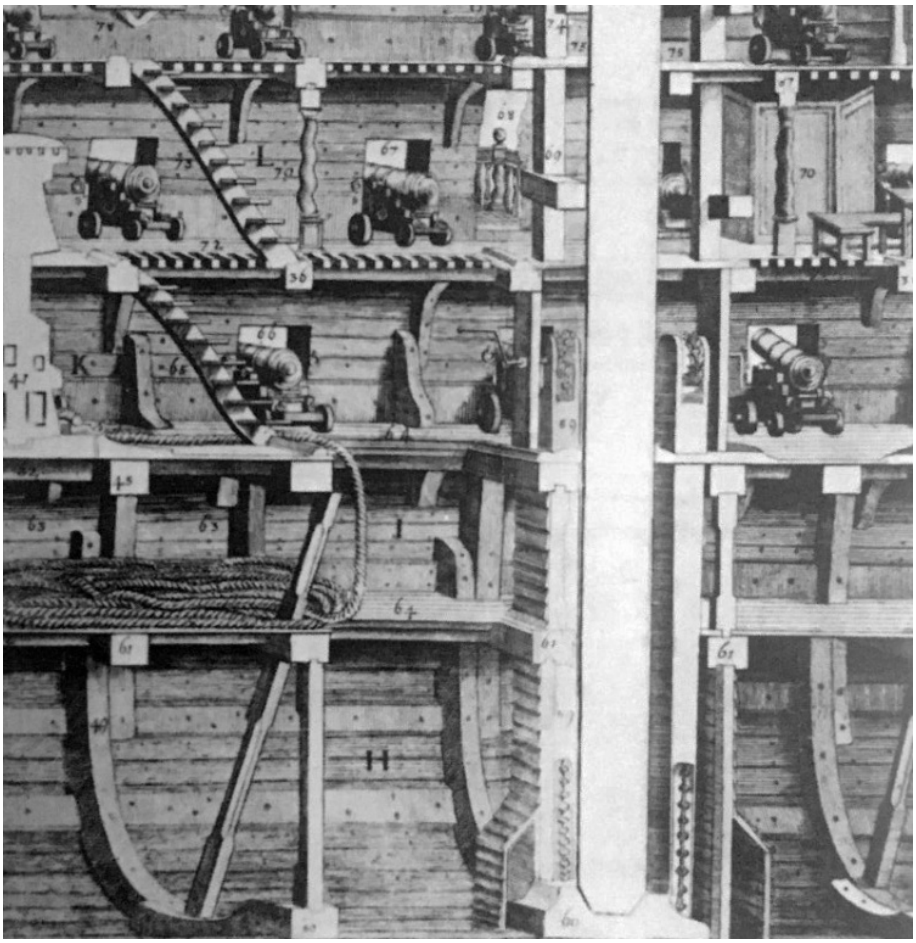


Figure 28: Cross-section of a chain pump assembly around the main mast of a First Rate, showing: the pump well (58); chain pumps discharging on the lower gun deck (59); and the main mast step (60). (Detail from the Phillips drawing of 1690 in Lavery 1981: 173)

The *Saphire*'s pump well structure was left unexcavated in 1977 to preserve its integrity (Figure 29). It consisted of four large planks resting on the ceiling planks in the bilge, creating a rectangular box that would have once reached the gun deck. The structure was built to be large enough to accommodate men as they inspected the pumps. Remains of a partition wall were found aft of the rear wall of the pump well, likely representing the shot

locker. Inside the pump well are two hexagonal pump tubes, each measuring 26 cm by 26 cm, bored from elm trunks and placed on either side of the keel.

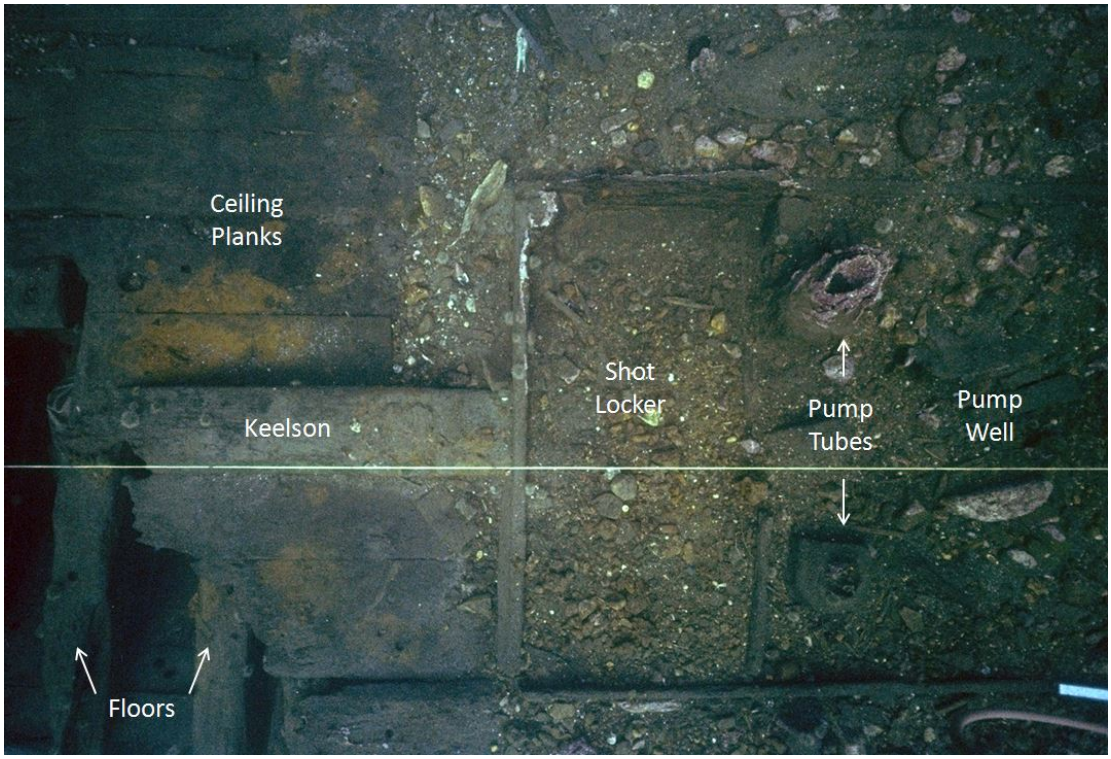


Figure 29: Plan view of the shot locker, pump well and elm pump tubes as found in 1977. (Courtesy of Parks Canada with notations by the author)

Galley

Brick and tile fragments were recovered from the stern and midship area and are believed to represent the galley structure (Figure 30). Excavations of the *Dartmouth* uncovered a pile of bricks and tiles and a copper kettle in the forecastle area (Martin 1978: 35). The tiles were similar to those from *Saphire*, measuring approximately 6 inches wide by 1/2 inch thick with nail holes at one end. However, the tiles recovered from the *Saphire* were too fragmentary to measure accurately. The bricks from the *Saphire*

suggest an approximate brick size of 9 by 4 1/2 by 2 1/4 inches (Myles 1996: 24).

Figure 30: Bricks and tiles from galley structure.
(Courtesy of Parks Canada)

Around 1670, the galley on Royal Navy ships was moved from the hold to just aft of the foremast, under the forecastle at the forward end of the upper gundeck (Goodwin 1987: 160), which placed it near the crew accommodation.

According to a record of its refitting in 1678, the galley of the *Dartmouth* had “a brick-built floor supporting a firebox, boiler shelf and flue, also of brick, while a shroud of tiling fixed to a wooden framework above it helped to reduce the hazard of accidental fire” (Martin 1978: 37). It is possible that this type of galley structure was used on other 17th-century English

frigates such as the *Saphire*. The galley bricks may have been lined with "plaster of lime" as this is included in a contract for the building of the *Bideford* in 1692 (Goodwin 1987: 161).

While outfitting the *Saphire* in August 1675, Phineas Pett wrote of

> a demand made for a copper chimney and hood and a round copper funnel for the furnaces of the Saphire, and although the chimney and the furnaces are now set up, neither of them can be used for the dressing the men's victuals till we have the said braziers work; the moulds for which were sent to the brazier the same time the demand was sent (TNA ADM 106/315/322).

Decoration and Glazing

Naval vessels were intended to be seen as symbols of authority and dominance by anyone that saw them, whether in home waters or on patrol in the Mediterranean or North America. Warships did not have to be actively engaged in battle to be effective; the mere presence of a fleet could often be enough to establish control, even if the threat of violence was only suggested. Thus, warships were elaborately decorated with carvings, paint, and gilding as expressions of sovereign power, a practice that peaked in the 17th century. The sterns of English warships were the most extensively and ornately decorated parts of the ship.

The *Saphire*'s transom stern allowed for the installation of glass window panes that served as lights for the captain's cabin. A pane of flat glass measuring approximately 9.5 cm by 10 cm was recovered during the excavations by NMAS (Figure 31). While the stern cabins of earlier naval vessels such as the *Dartmouth* (launched in 1655) were fitted with rhomboidal

panes of mica or “Muscovy glass,” square panes of glass seem to have been in use by the time that the *Saphire* was fitted out. In July 1675, Phineas Pett, Master Shipwright at Woolwich, requested that the Navy Board issue an order for a new ship to be fitted with square glass, the Board “having resolved upon a fit price with the glazier” (TNA ADM 106/315/316).

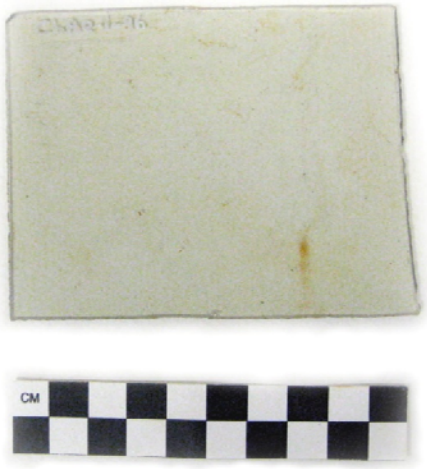


Figure 31: Pane of flat glass ChAe-1:96. (Photo by the author)

The edges of the pane are irregular and appear to be cut by hand. The pane is smooth and clear, lacking the curving lines indicative of crown glass or the elongated bubbles that would suggest broad or cylinder glass (Scharfenberger 2004: 64). It appears to be an early example of polished plate glass, produced using a process reported to have been developed in France in 1688, in which the glass was cast on a metal table, then rolled, ground and polished (Scharfenberger 2004: 64). The technique was introduced into England by the late 17th century, but the polishing process

made it five to twenty times more costly than crown or broad glass, resulting in limited use (Dungworth 2011: 28).

While the introduction of stone ground glass into England apparently post-dates the construction of the *Saphire,* this new type of glass may have been installed during one of the ship's many refits. For example, the survey of repairs for the *Saphire* made at Deptford in 1679 calls for the installation of "all new glass" (TNA ADM 7/827/102, Appendix D). In 1694, the contract for the construction of the Sixth Rate *Bideford* called for the lights to be "fitted out in sash fashion" and glazed with "stone ground glass" panes each measuring 12 inches by 10 inches (Goodwin 1987: 236), indicating that this type of very expensive glass was being used on the ships of the Royal Navy by that time.

Maintenance

Naval correspondence records damages, repairs, refits and adjustments made to the *Saphire* over the course of her career. The accounts of the *Saphire'*s duty in the Mediterranean show that maintenance and repairs were a constant challenge. For example, on August 31, 1677, Sir John Narbrough wrote from Tangier that "the commander and officers of the Saphir complain of the defects of the hull of that ship and that their standards [upright timbers supporting the deck beams] between decks are broken. I am doubtful I must send these for England if they can be supplied at Leghorn I will send them thither" (TNA ADM 106/326/339).

At sea, leaks could be temporarily patched from the inside or outside

with lead sheets, canvas, tar, tallow, or other substances, with raw beef considered especially effective (Oertling 2007: 4). Records show delivery of stores of such materials to the carpenter of the *Saphire* (TNA ADM 106/374/530). Many pieces of scrap lead were found on the wreck in a variety of shapes and sizes, often with square or round tack holes (Figure 32). Such lead patches were commonly used for expedient repairs on ships.

Figure 32: Lead patch, 18M38M14-6.
(Courtesy of Parks Canada)

The 17th-century naval chaplain Henry Teonge frequently wrote about hull maintenance activities on board 17th-century naval ships, in which he was likely a direct participant. He mentions scraping the ship and the masts, and tallowing the decks, masts and yards (Teonge 1825: 92-93). On another occasion, they applied new caulking “having nothing else to do” (Teonge 1825: 187). Later, three days were spent in fitting out the ship; the vessel was breamed, “with which Mr. Peton was frighted out of his cabin” (Teonge 1825:

237). Presumably, the ship was re-caulked following this cleaning.

It appears that such maintenance may have been over zealous in some cases. In October 1685, Sir Richard Beach, Commissioner at Portsmouth observed that ships returning from the south had their decks "scraped so thin and especially their gun decks that they will hardly bear the weight of their ordnance" (TNA ADM 106/374/181, Appendix D). Both the *Saphire* and the *Bristol* were reported to need new gun decks as they had been reduced to a half inch in thickness. Beach recommended to the commanders

> not to permit the boatswain of their ship to scrape their decks above once or twice a going out to clear them of the pitch and tar and all the voyage after (except it be after a caulking) to wash and scrub with brushes, it would prevent the new laying of decks and preserve the plank and sides by washing them with salt water and be more healthful for the men in washing away the dirt and filth with about the cary and other places stinking and all this would as little if not less labour than scraping (TNA ADM 106/374/181)

The ships were frequently careened, or hauled down on one side, to allow for cleaning and repairs to the hull. The process of cleaning the hull was called breaming and used burning and scraping to remove marine growth that slowed the ship. Purpose-built careening facilities existed in the Mediterranean at English ports like Gibraltar and Port Mahon, but this maintenance work could also be done on any suitable sandy beach. For example, Cleasby reports having to careen the *Saphire* in Newfoundland in 1696 after striking a rock and damaging the keel (TNA ADM 106/416/142,

Appendix D). All that was required was a sandy shore near large trees or similar anchor points that could be used when hauling the ship over on one side.

The long cruises in the Mediterranean seem to have been especially hard on the ships, and the naval correspondence is full of near-constant reports of the *Saphire* and the other ships in the fleet being careened in the then-new mole at Gibraltar or at Livorno or Tangier (Figure 33). Careening provided the opportunity to not only recaulk the seams and repair damage to the hull, but also to rummage the hold and to grave the hull to remove marine growth on the bottom, which slowed the ships and made them less able to pursue or escape from enemy ships. Boteler (1634: 213) described a ship as foul when it “hath been long untrimmed, so that any Filth, or Grass, or Weeds, or Periwinkles, be grown and stick upon her sides under water...” By 1708, the *Cruisers and Convoy Act* specified that all vessels should be careened at least three times a year (Goodwin 1987: 226).

The naval correspondence also records several instances of the charmingly named procedure of giving the ship “boot hose tops.” For example, in March 1696, Captain Cleasby requested “some stuff to give the ship a pair of boot hose tops in the country [Newfoundland], she being now very foul” (NMM ADM A/1828/184, Appendix D). This is a reference to the practice of applying a band of white stuff along the waterline of the ship, between the anti-fouling sheathing on the bottom and the painted topsides

(*Mariner's Mirror* 1912: 95). The term evokes the image of a pair of hose or stockings folded over the tops of a pair of sea boots, exposing the lighter coloured lining.

Figure 33: A plan of Tangier published by John Seller in 1675, showing the new mole.

Ship Fittings and Equipment

The *Saphire* would have carried three masts along with all of the associated yards and running and standing rigging. In total, 77 artifacts related to ship's fittings and rigging were recovered, many of which were very fragmentary. The most notable include parts of the wooden running block fragments such as sheaves, block shells, sheave pins, a toggle, and iron artifacts including an eye bolt and two wrought-iron binding straps for

deadeyes.

Generally speaking, warships were rigged for maximum speed and manoeuvrability, with the assumption that large crews would be available to work the rigging. They were rigged to require more brute force to be applied to work the lines and therefore used larger sheaves, but this allowed the lines to run through faster (Corder 2007: 3). In contrast, merchant ships were rigged for smaller crews, meaning that more line was used in the running rigging to create more mechanical purchase through multi-sheave blocks, making them slower to manoeuvre as the lines took longer to run through.

Variation in sail plans can be seen in Deane's 1670 list of the ships in the Royal Navy (Lavery 1981). For example, the sail plan of a Second Rate in *Deane's Doctrine* shows vertical main and foremasts with an aft-raking mizzen mast, which is consistent with other 17th-century representations of Royal Navy ships (Lavery 1981: 100; Figure 34). Deane situates the mainmast either at the middle of the gun deck or just slightly aft, which puts it well forward of the midpoint of the keel, as the gun deck projects further ahead of the keel at the bow than at the stern (Anderson 1994: 3-4). Notably, Deane depicts the use of a spritsail topmast, which was characteristic of the late 17th century.

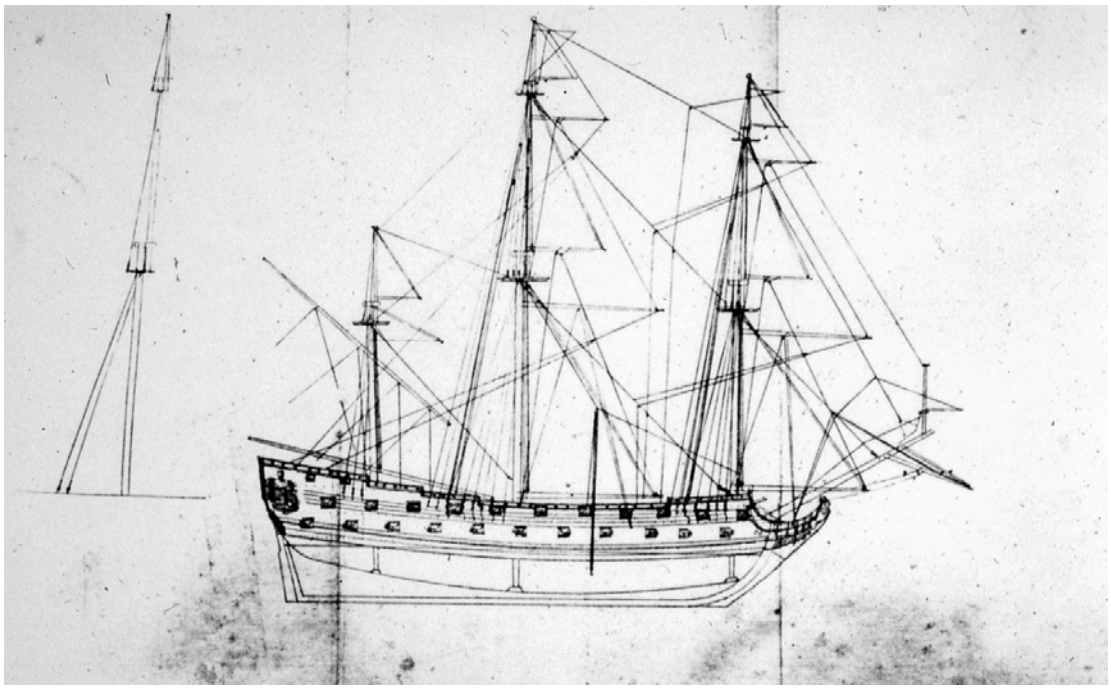


Figure 34: Rigging plan for a large Fifth Rate, showing the arrangement of the masts, spars and running rigging, as depicted by Sir Anthony Deane in his Doctrine of Naval Architecture of ca. 1670. (From Lavery 1981: 94)

Sheaves, Shells and Pins

Wooden blocks were used to create mechanical purchase in the running rigging. Blocks were handmade until the mid 18th century, when a block-making machine was invented, leading to more uniform production. Thus 17th-century blocks show some variability in manufacture and quality.

The Royal Navy used sheaves made from lignum vitae, a dense hardwood that allowed them to serve as the interior turning mechanism of pulleys without breaking. This explains why many block sheaves survive on shipwreck sites without their shells, which were made from softer woods. Elm or ash were also specified for the sheaves of certain types of blocks where lighter weight was needed.

The sheaves recovered from *Saphire* are in excellent condition. Each was made from a solid piece of wood with a hole through the centre for a sheave pin (Figures 35 and 36). The exterior edge had a semi-circular groove cut into it for a rope track.

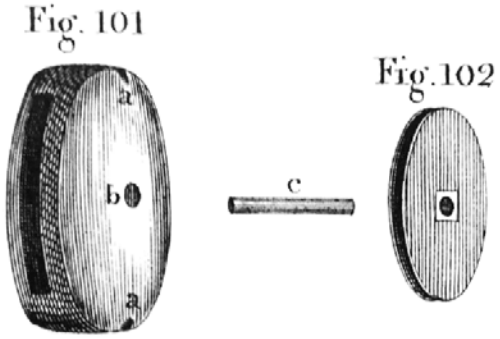


Figure 35: The parts of a single block. Figure 101 shows a. the shell, with notches at the top and bottom to hold a rope or strap around the block, b. the hole for the pin, and c. the pin. Figure 102 shows the sheave, which has a groove around its circumference to hold the rope and a brass coak or bush in the centre for strength. (From Lever 2000: 13)

Figure 36: Sheaves, 18M900X11-1, 18M48Q3-1 and 18M36P1-1. (Courtesy of Parks Canada)

A well preserved sheave with a triangular bronze or brass coak marked with the Royal Navy's broad arrow was recovered by NMAS (Figure 37). Coaks served as bearings in the centers of sheaves to prevent splitting and to reduce wear on the axle pin. In 1644, Henry Manwayring defined "cocks" as "little square things of brasse with a hole in them, put into the middle of some of the greatest wooden sheaves, to keep them from splitting and galling by the pin of the block on where they turn" (Manwayring 1972: 27). On smaller ships, like the *Saphire*, these were likely reserved for use in blocks that held great weight, such as the winding blocks and halyard blocks, where an unreinforced wooden sheave may have cracked under pressure.

Figure 37: Pulley sheave with bronze coak. Note the broad arrows inscribed on both the wooden block and the coak. (Photo by the author)

The shell fragment shown in Figure 38 represents only one side of the block cheek. The hole in the centre of the cheek would have held the sheave pin carved that held the sheave in place and allowed it to turn.

Figure 38: Fragment of a block shell, 18M48N1-1.
(Courtesy of Parks Canada)

Two deadeye straps, one of which is complete, were part of the ship's standing rigging and were used to hold the shrouds in place on either side of the ship. Figure 39 shows a strap that is rounded at the top to hold the deadeye. The other end is part of a chain assemblage that attached the shroud to the chainwale on the exterior of the hull.

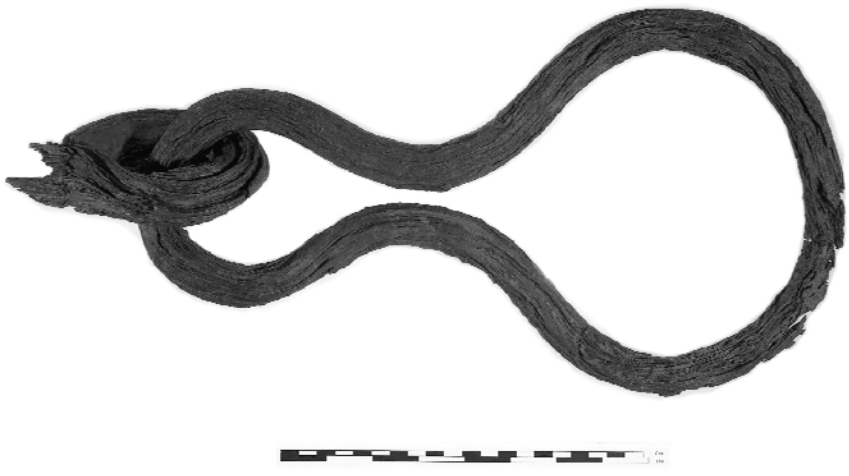


Figure 39: Complete iron deadeye strap 18M48S4-1. (Courtesy of Parks Canada)

Ropes and Cables

At least 64 fragments of rope were found, much of it in fragmentary condition. The ropes and lines recovered from the *Saphire* would have been used in the standing rigging (fixed lines that support the masts) and the running rigging (moving lines that raise, lower or adjust the spars on which the sails are set, or that adjust the sails). Being organic, such lines need constant inspection and maintenance to identify wear.

The most common type was plain or hawser-laid rope, with a few examples of cable-laid rope (Myles 1996: 16). Hawser-laid rope was manufactured by twisting the prepared fibres with a right-hand twist to form yarn and then the yarn was laid to the left to form strands. Three of these strands were then laid to the right to form the hawser lay. Cable-laid ropes were made by expanding this process one step and twisting the three hawser laid ropes to the left. A coarse, vegetable fibre rope fragment had an unknown use and may be intrusive.

A bolt rope was sewn around the edges of the sail and cringles were spliced in to serve as attachment points for the bowlines, leechlines and buntlines used to control the edges of the sail (Figures 40 and 41).

Figure 40: Section of right handed or Z-twisted bolt rope with a smaller gauge Z-twisted rope spliced into it to form a cringle 18M48Q7-2. (Courtesy of Parks Canada)

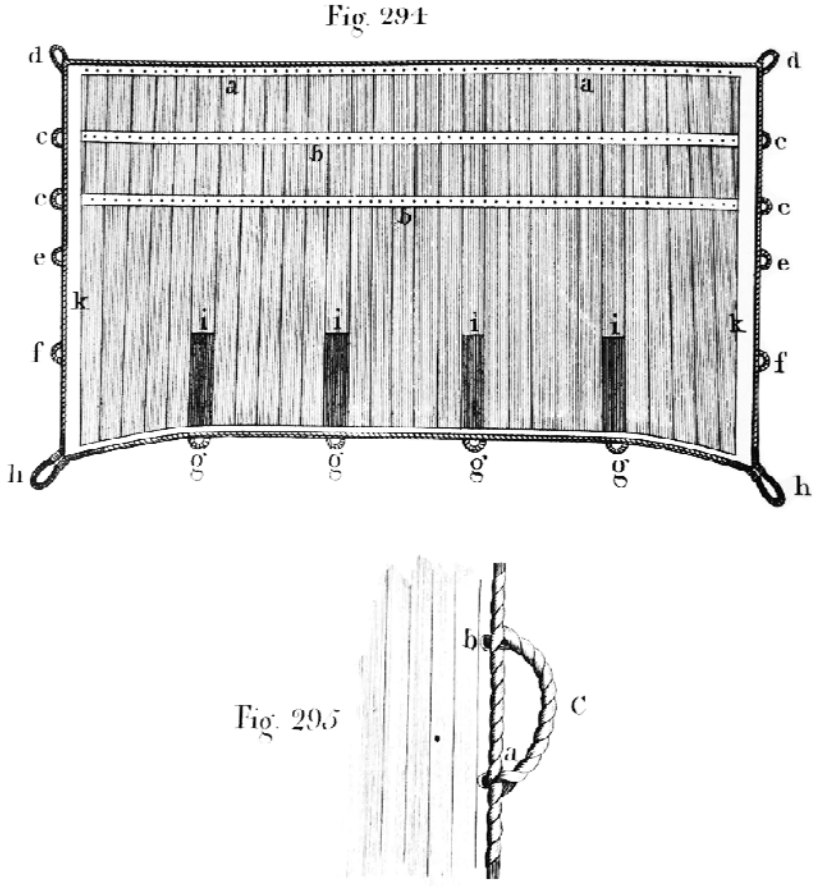


Figure 41: A foresail showing the earrings (d), cringles (e, f, g) and clews (h) spliced into the boltrope. (From Lever 2000: 51)

Figure 42 shows a braided mat of plant fibre at the time of its recovery. Such mats would have served a number of functions on a wooden ship, including as dunnage to protect fragile cargo, and as chafing gear. Boteler (1634: 278) described some of the uses of mats on ships:

> They are not those, which you call Mats on Shore, though some fair Ships there are, whose fair Cabbins are Matted even with them also; but those which are properly our Sea-mats, are broad Clouts weaved of Sinet and Thrums, and some are made of Sinet only: and their use is to preserve principally the Main and Fore-yards from gauling against the Masts at the Ties, and at the Gun-wale of the Loos; they are sometimes likewise employed to keep the Clew of the Sail from gauling there; as also upon the Bolt-sprit, and Beak-head to rescue the Clews of the Fore-sail.

Figure 42: Braided plant fibre mat, possibly used as chafing gear or dunnage, as recovered in 1977. (Courtesy of Parks Canada)

Sails

Canvas fragments, possibly from the sails, were recovered from the site. Ideally, naval vessels would have carried at least two suits of sails on board in the sail locker in the lowest parts of the bow. Sails had a life span of

a year or two, and needed to be carefully dried before being stored. Canvas was also used to make bags to hold gunpowder and for many other purposes on a ship.

Anchors

A small anchor was exposed during the 1977 excavations on the starboard side of the midship trench in sub-operation 18M48L (Grenier and Waddell 1978; Myles 1996: 15). Unfortunately, little information was recorded about this anchor, as the archaeologists intended to return to the site to complete the work.

Adequate ground tackle was a matter of life and death for a ship on a lee shore. A small warship of *Saphire*'s size would have normally been equipped with six anchors: a sheet anchor (the heaviest anchor), three bower anchors (the main working anchors, in various sizes), a kedge anchor (used to move the ship against the current by working the capstan), and a stream anchor (used in mild conditions or when anchoring temporarily) (Lavery 1987; 35).

Jobling (1993: 72-73) has summarized information on the number and weight of anchors carried on naval vessels based on an establishment of 1686 produced for James II. For a Fifth Rate of 32 guns, the expected anchors were as follows, as given in hundredweights (cwt = 112 lb):

Sheet Anchors		**Bower Anchors**		**Stream Anchors**		**Kedge Anchors**	
No	Cwt	No	Cwt	No	Cwt	No	Cwt
1	15	2	14	1	5	1	2

1 13

Three anchors were found on the wreck of *Dartmouth*, believed to include the sheet (12 feet long) and two bower anchors (8 feet long) (Adnams 1974: 269-274). At this time, the wrought-iron standard angle-crown type was in use in the Royal Navy. They were made from wrought iron and fitted with wooden stocks.

The naval correspondence documents several instances of the *Saphire* losing one of its anchors and either sending for a replacement or, where possible, paying for hookers to come and retrieve the lost anchor (e.g., TNA ADM 106/404/219). Given that the sheet and bower anchors would have been the largest and most expensive iron objects carried on a warship (Jobling 1993: 68), it is logical that significant efforts would have been made to recover them.

Ordnance

The *Saphire* was armed with the cast-iron smooth-bore muzzle-loading ordnance that was widely used by the Royal Navy in the late 17th century. On ships, these guns were mounted on wooden carriages (Figure 43).

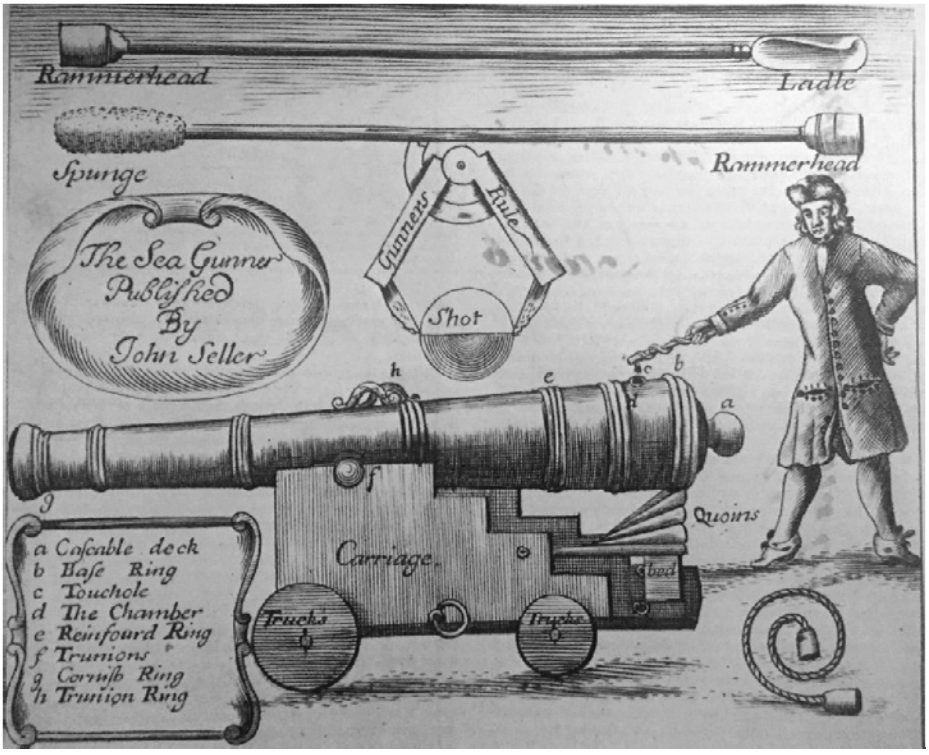


Figure 43: A naval gun and carriage of the late 17th century with some of the gunner's equipment. A rope rammer is coiled in the lower right foreground.
(John Seller, *The Sea Gunner's Companion* [London, 1691] in Lavery 1981: 128)

Iron ordnance was used to bombard the hulls of enemy ships, to take out their spars, sails and rigging, and as anti-personnel weapons. A small ship like a frigate would have focussed on the latter two objectives, as the intent was usually to capture enemy ships as prizes and not to sink them. Smaller guns with yoked swivels could be mounted on the gunwales of the forecastle or quarterdeck, and used to repel boarding parties and to attack the enemy prior to boarding.

While the *Saphire* is most often referred to as a 32-gun ship, the established armament differed based on whether or not England was at war,

and whether the ship was in service in home waters or abroad. In 1677, the establishment of guns for the *Saphire* was as shown in Table 2.

Establishment of Guns	Total Guns	12-pounders	Sakers	3-pounders
In War at Home	32	18	10	4
In Peace or in War Abroad	28	16	8	4

Table 2: 1677 Establishment of guns for the *Saphire*.
(Tanner 1897: 703-704)

According to a list of the gunner's stores on the *Saphire* in 1691, the ship was at that time fitted with 16 8-pounders, 12 minions, and 4 3-pounders, for a total of 32 guns (TNA ADM 106/403/112, Appendix D). It is interesting that this document uses a mixture of traditional gun names (minion) and the newer convention of referring to ordnance by the weight of the shot fired (3-pounders and 8-pounders). Until the end of the 17th century, ordnance pieces were given zoomorphic names; for example, the name culverin was derived from *colubra*, the Latin word for snake, while the saker and falcon were named for birds of prey. By the early 18th century, guns were more standardized and were named for the weight of the iron shot fired, for example 12-pounder.

It is likely that some of the smaller iron guns were removed from the *Saphire* under Cleasby's orders to reinforce the fortifications in Bay Bulls at the time of the French attack in 1696. Although there is no record of it, the possibility also exists that some of the guns could have been salvaged by the Royal Navy during the years immediately following the loss of the *Saphire*.

Guns were expensive, and it was not unusual for them to be recovered using diving bells. The moderate depth of the site would have been within the range of such activities, although it is less likely that the necessary equipment would have been deployed to this relatively remote location.

Accounts of the early looting of the wreck following its rediscovery in 1968 suggest that a number of iron guns were recovered at that time. Divers removed at least three or four guns from the site in the early 1970s, some of which were reportedly sold (Barber 1977: 305, 310). Other iron guns from the *Saphire* may have been redeposited on Wreck 1 (19M) during failed recovery attempts.

Guns reputed to have been removed from the wreck of *Saphire* still sit at the entrance of the former Battery Inn Hotel in St. John's (now the Signal Hill Campus of the Memorial University of Newfoundland), and are reported to be in poor condition (Neil Burgess, pers. comm., 2019; Figure 44). Old guns were also used as gate posts for the Catholic church in Bay Bulls and are mounted with statues known locally as the "canonized saints." It is not clear whether these guns were recovered from the *Saphire* or possibly from one of the other shipwrecks in the harbour.

Ten cannon were visible on the wreck site in 1974 (Barber 1977: 310) and others were believed be buried in the sediment. Thirteen iron guns were recorded on the site plan in 1977, representing only a small portion of the

original armament. Unfortunately, the dimensions of the iron guns on the wreck site were not recorded in detail during the 1977 season.

Figure 44: Two of three cast iron guns outside the Battery Hotel in St. John's in 2015. (Courtesy of Neil Burgess)

A wrought iron bolt was recovered consisting of a complete eye with a shank (Figure 45). One possible function of the eyebolt from the *Saphire* is for fastening the gun tackle to the ship. Each gun required five fixed ringbolts and eyebolts, one of each on each side of the gun port, and one in the deck behind the gun (Goodwin 1987: 217).

Figure 45: Wrought-iron eye bolt, possibly used to secure the gun tackles, 18M48K12-3. (Courtesy of Parks Canada)

Small Arms

As a warship, the *Saphire* would have been equipped with a range of small arms, which included any weapon that could be carried and used by a single soldier for hand-to-hand combat, such as pikes, swords, muskets, and pistols. While no edged weapons were found, a list of gunner's stores delivered to the *Saphire* in 1691 includes 11 long pikes, 11 short pikes, 4 bills, 15 hatchets, 20 swords, and 19 hangers (TNA ADM 106/403/112, Appendix D).

The flintlock mechanism of a French musket was found and is thought to have belonged to one of the forty French marines reported to have been killed during the explosion while trying to extinguish the fire on the *Saphire.* Its impression was preserved in a concretion, producing a perfect mould of the lock plate with the maker's mark PAVFYLE A TVLLE (Figure 46; Figure 47). This is a reference to the Pauphile family, a prominent dynasty of gunsmiths who produced firearms at Tulle in France between 1655 and 1789 (Myles 1985: 35). In 1691, the gun factory at Tulle received a commission from the Ministère de la marine to provide *fusils* and *pistoles* for arming the colonies of North America and the Caribbean. The factory manufactured all French marine muskets until the 1740s, after which other factories helped to meet the demand (Bouchard 1998: 7).

Figure 46: French marine musket flintlock 18M38M6-9. (Courtesy of Parks Canada)

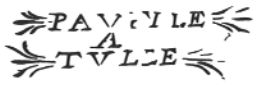


Figure 47: Detail of inscription on flintlock 18M38M6-9.
(Drawing by Dorothea Kappler, courtesy of Parks Canada)

During King William's War, large numbers of high-quality flintlock weapons began to be produced for the Board of Ordnance by London and Birmingham gun makers (Williams 2012: 7). The list of gunner's stores on the *Saphire*, dated 1691, includes 40 snaphance muskets, 3 musquetoons, 2 brass blunderbusses, and 10 pistols, but does not list flintlock muskets (TNA ADM 106/403/112, Appendix D). While snaphance muskets were generally obsolete by the mid 17th century, the English continued to use the term snaphance for any snapping gunlock that used a flint and steel to produce a

spark until the early 18th century (Williams 2012: 15), making it unclear what type of guns were provided to the *Saphire*.

Four wedge-shaped, spall-type gunflints for muskets or pistols were also recovered from the stern area (Figure 48). The English, French, and Dutch all used this style of gunflint in the late 17th century.

Figure 48: Spall-type gunflints 18M38N1-3, 18M38N7-2, 18M38N6-1 and 18M38N6-1. (Courtesy of Parks Canada)

Shot

Three different types of artillery projectiles were recovered from the *Saphire*: solid shot; an exploding shell (grenade); and scatter shot. Ships also commonly carried anti-rigging shot such as linked shot, bar shot and star shot (Figure 49), but none was found during the trial excavation of the *Saphire.* The relatively small wrought-iron ordnance carried on the *Saphire* would not have used other types of projectiles such as canister shot, as these were not effective in smaller sizes of guns.

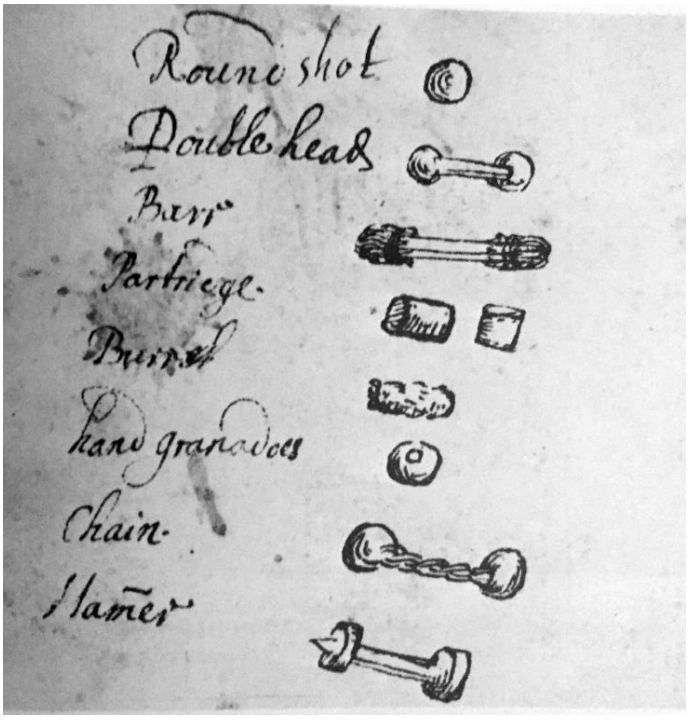


Figure 49: Types of projectile shot used by the Royal Navy in the 17th century.
(From the British Library in Lavery 1981: 137)

Sixteen pieces of cast iron shot were recovered (Figure 50). Unfortunately, heavy corrosion precluded accurate weighing of most examples. Windage would also need to be taken into account, that is the shot were manufactured to be about 4% smaller than the bore of the gun. Eight are approximately 4-inches in diameter, two are approximately 3-inches in diameter, and six are 2-inches in diameter. The 3-inch and 4-inch balls were likely single shots for smooth bore ordnance, while the smaller 2-inch examples were either grapeshot or single shot.

Figure 50: Cast iron shot.
(Courtesy of Parks Canada)

The shot would have been kept in the shot locker, located low in the hold at the base of the main mast to ensure that the heavy iron did not affect the ship's trim. Black powder, a mixture of saltpeter, charcoal and sulphur, would have been required and was carefully stored in the powder magazine. According to a list of gunner's stores delivered to the *Saphire* in 1691, the ship was carrying 51 barrels of corned powder at that time (TNA ADM 106/403/112, Appendix D).

A brass shot gauge with eight rings for measuring shot ranging from 5 to 32 pounds was excavated from the stern of the ship where it was likely stored in the gunner's cabin or stores (Figure 51). No markings were observed which could give it temporal or cultural ascription, but its sizes

correspond to the sizes of shot used by the English at this time (Myles 1996: 28).

Figure 51: Copper alloy shot gauge 18M36M1-1. (Courtesy of Parks Canada)

A similar brass shot gauge was recovered from a 17th-century shipwreck at Port Royal, Jamaica, possibly the Fifth Rate *Swan* (Clifford 1993: 125). That example consisted of 5 brass rings fastened together with a wing nut, each ring inscribed with a letter corresponding with a named size of ordnance (demi-culverin, saker, minion, falcon, falconet). Three bronze gauges marked for shot of 1 lb, 8 lb and 12 lb were also found on the wreck of the Dutch merchant ship *Amsterdam,* lost in 1749 (Marsden 1974: 159).

Victualling

Food was widely considered the most important single factor in fostering harmony on a naval ship. As Samuel Pepys famously stated in

1677,

> Englishmen, and more especially seamen, love their bellies above anything else and therefore it must always be remembered in the management of the victualling of the Navy, that to make any abatement from them in the quantity or agreeableness of the victuals is to discourage and provoke them in the tenderest point, and will sooner render them disquieted with the king's service, than any other hardships that can be put upon them. (Tanner 1926: 250)

Captain Thomas Harman learned Pepys's lesson when he put his men on "short allowance of all sort of provisions excepting beer" while serving in the Mediterranean squadron at Malta on December 3, 1675 (TNA ADM 106/311/200). In response, the mariners and seamen wrote a petition to the Navy Board in early 1676:

> The humble petition of the mariners and seamen of the said ship: That the listed by reason of the smallness of their provisions are much impaired in their strength and that his Majesty's business by reason thereof is not effected and done with that vigour and [cobrily?] as may be required. The listed therefore desire that they may be allowed their full quantity of provisions until the [?] of March next ensuing. The said ship being intended to be careened at Malta and the coldness of this season requiring the same. (TNA ADM 106/318/23)

In response to the complaints of the mariners, Sir John Narbrough directed Captain Harman to return his crew to a full allowance (TNA ADM 106/318/21).

The hold of a naval vessel was filled with victuals, water, spirits, ammunition, powder, cables, and other supplies. The ability to carry sufficient provisions was a critical factor in the operational success of a frigate,

particularly when assigned to a long convoy route or when on station in a remote location like Newfoundland, far from the usual victualling stations.

When the *Saphire* was outfitted for its first sea voyage in August 1675, a survey was made of the stowage of her provisions, particularly bread and beer, as reported by Captain Beare, Master Attendant at Woolwich: “Although she have but a little more than two months of either sort [bread and beer] in, yet she is as full, both in respect of her breadroom and hold as can possible be got in, there being scarce room enough left to stow her cables and sails” (TNA ADM 106/315/206). It was proposed that in order to fulfill the Navy Board’s instructions to stow another month’s worth of bread, it would be necessary to remove the steward’s room and the captain’s store rooms, at some inconvenience and charge, as “she was not designed to carry more provisions then she now hath in.” As previously discussed, ship design is always a balancing act, and the lack of stowage space for provisions was likely the result of Deane’s desire for finer lines below the waterline, which would have helped to make the *Saphire* a faster sailer.

The bread room was always placed in the aftermost part of the hold, which was considered to be the driest place in the ship. The orders for the fitting out of the *Saphire* in 1675 required the bread room to be leaded or tinned (TNA ADM 106/315/312, Appendix D), which would have helped to protect the provisions from vermin and from leaks.

The majority of the consumables needed to sustain the ship and its operations would have been stored in wooden casks in the hold, including water, beer, salt pork, biscuit, gunpowder and shot. Such casks would have been staved when empty to save space in the hold. Various sizes of casks held a range of wet and dry goods from beverages and foods to military supplies. Depending on the voyage, beverages might include water and liquors such as wine, rum or beer; food items would include salt pork or fish, butter, biscuits or beans; and military supplies would include gunpowder and shot (Myles 1996: 29). Casks in at least four sizes were recovered from the *Saphire* (reconstructed from fragments of staves, head cants, pegs and hoops); however, some may be likely intrusive and post-date the *Saphire* (Loewen 1991).

The most common size was the smallest, ranging in its estimated capacity from 9.84 to 14.88 litres. Possible uses vary considerably, from butter to spirits to gun powder. One small keg head piece is marked “FDT” or “PDT” which is possibly a gunpowder grade (Figure 52). Four larger barrels were identified. Their stave heights measured 10 to 11.5 inches; a second barrel was 13 inches, a third was 18 inches and the largest, incomplete stave length was 25.5 inches.

Figure 52: Head of a small barrel marked FDT or PDT and associated staves, 18M48M18-1. (Courtesy of Parks Canada)

Most of the ceramics found on board the *Saphire* were used for food and beverage storage or service. Ceramic containers for shipping and storage were packed with contents that could survive a long sea voyage, such as dried beans, salted fish or meat, fat, water, beer and spirits (Myles 1996: 31). Although the *Saphire* wreck site was reported to be covered with large storage jars when divers first discovered her, they were removed over the years. Only a few fragmentary examples of these buff-coloured coarse earthenware jars were recovered during the archaeological excavations

(Figures 53 and 54).

Figure 53: Reconstruction of an Iberian earthenware storage jar with a green glaze on the interior, 18M38N2-7. (Drawing by Carol Piper; Courtesy of Parks Canada)

Figure 54: Neck of an olive jar found with the cork stopper in place ChAe-1:184. (Photo by the author)

Other storage jars found on the *Saphire* consist of fragments of costrels or other bulbous storage containers made of micaceous, unglazed coarse red earthenwares from the Mediterranean area (formerly known as Merida wares, since re-identified as Portuguese redwares), some of which appear to have been carried as cargo. Some complete examples of Portuguese redware containers of this type exist in the ChAe-9 collection, such as the globular costrel shown in Figure 55, which has been identified as a *cantil* (Newstead 2008: 93). While these containers were not recovered archaeologically and thus cannot be attributed to the *Saphire* with any certainty, it seems less likely that an intact storage container would have been discarded as waste from shore, leaving open the possibility of an association with the shipwreck.

Storage jars from North Devon included both smooth- and gravel-tempered types. Several tall baluster jars, sometime referred to as pilchard pots, may have been used for storing foods such as pickled fish, butter and other provisions. Figure 56 shows two such jars that were recovered by NMAS from underwater contexts near the *Saphire*, while Figure 57 shows a reconstruction of a similar jar recovered by Parks Canada.

Figure 55: Portuguese redware *cantil* recovered from Bay Bulls harbour ChAe-9:3. (Photo by the author)

Figure 56: Bases of two smooth-tempered coarse earthenware storage jars from North Devon, ChAe-2:45 and ChAe-2:46. (Photograph by Virginia Myles; Courtesy of Parks Canada)

Figure 57: Reconstruction of a complete Devon storage jar, 18M48L15-3.
(Drawing by Carol Piper; Courtesy of Parks Canada)

Much of the glass recovered from the wreck is in very poor condition; some fragments have disintegrated, while others are heavily patinated or iridescent. English dark-green “onion-shape” wine bottles were the most common glass artifacts, with squat, globular bodies and short necks, of the shape typical of the period from 1685 and 1725 (Figure 58). They are characterized by squat bodies, deep push-ups and short necks. Five were recovered during the NMAS excavation and another nine were recovered during Parks Canada excavations (seven from *Saphire*, and two from wreck 19M).

Figure 58: English wine bottle, 18M38M10-1. (Courtesy of Parks Canada)

A smaller number of dark green glass case bottles were also recovered (Figure 59). There are at least five examples in the NMAS collection, and additional fragments are found in the Parks Canada collection. Both styles were used to store alcoholic beverages such as wine and beer, and both were used to serve beverages at the table. A large body fragment from a demijohn may also be from *Saphire*.

Figure 59: Fragment of a case bottle, ChAe-1:11. (Photo by the author)

CHAPTER 6: THE *SAPHIRE* AND THE ROYAL NAVY IN NEWFOUNDLAND

Cod was a valued commodity in early modern Europe and the rich fisheries off the banks of Newfoundland made the island of great geopolitical significance to the maritime powers of Europe. By the 16th century, large fleets of migratory fishers from France, Spain, Portugal and the West Country of England sailed to Newfoundland each spring, fished for cod all summer, and returned to Europe in the fall via a triangular trade route to sell their catch on the Iberian peninsula before returning to their home ports with a cargo of trade goods (Cell 1969: 3; Pope 2004: 15-19). It was estimated that by the beginning of the reign of Elizabeth I in 1558, there were more than 30,000 men fishing off Newfoundland each year (Proulx 1979: 5).

There were two distinct types of cod fishing, the wet fishery and the dry fishery, that were primarily practiced by the French and English, respectively. After about 1550, the French began fishing on the banks, generally preferring to use the wet fishery method in which the fish was heavily salted and stored in barrels in the hold. In comparison, the dry migratory fishery used by the English involved lightly salting the cod which was then laid to dry on cobble beaches or on wooden flakes (Innis 1954; Cell 1982; Faulkner 1985: 59-60;).

Initially, the English fishery was focused on Ireland and Iceland and was less active in Newfoundland than the Spanish, Portuguese and French, and the English did not become seriously involved in the Newfoundland cod

fishery until later in the 16th century (Innis 1954: 30; Janzen 1999). The English defeat of the Spanish Armada in 1588 reduced the Spanish fishing fleet, which provided an opportunity for the English to fulfill the unmet demand in the markets of the Iberian peninsula (Temple 2004: 9).

By the early 17th century, England had begun to intensively exploit the Newfoundland fisheries and had established control over the Avalon Peninsula (Pope 2004: 33). The Newfoundland fishery became important to English imperialism as it was considered to be a training ground for the Royal Navy (Pope 2004: 181). In wartime, these trained seamen could be pressed into service on naval vessels.

The Cultural Landscape of 17th-Century Newfoundland

In 1660, Nicolas Gargot was appointed as the Governor of Plaisance, the first French colony in Newfoundland (Crompton 2012: 72). He was instructed to occupy the place and to build forts and houses to establish French authority on the island. The French defences at Placentia were completed by 1662.

English settlers had established several much earlier colonies in Newfoundland. The earliest settlement was established by John Guy at Cuper's Cove in 1610 (Gilbert 1996). Other settlements were established at Renews in 1617 and at Bristol's Hope in 1618, and St. John's was permanently settled by 1620 (Mills and Tuck 2004; Pope 1995b, 2004). The British constructed Fort William at St. John's in 1690.

For the purposes of comparative archaeological research, the most significant 17th-century settlement in Newfoundland is Ferryland, about 80 km south of St. John's. Sir George Calvert (later Lord Baltimore) established the Colony of Avalon at Ferryland in 1621 (Pope 2004: 4). In the first year, 12 settler under the leadership of Captain Wynne built basic structures within the palisades of the plantation, which covered four acres, including a mansion house with a parlour and kitchen, tenements, salt works, a forge, a hen house, a well, and a wharf (Tuck 1993: 301-309). By 1625, the colony had grown to 100 residents, including tradesmen (Cell 1969: 9; Pope 1986: 19). Calvert stayed for only one winter in 1628-1629, before seeking to resettle in Virginia with 40 colonists, citing harsh weather and French hostility (Pope 1992: 148).

Ferryland was the principal settlement of Newfoundland in the late 17th century. After Sir David Kirke was given administrative control of Newfoundland in 1637 by Charles I, he renamed the settlement the Pool Plantation, and moved into the mansion house (Gaulton 2006: 26-27). The Kirke family maintained control until 1708, despite ongoing lawsuits from the Calvert family, and the settlement was occupied continuously with the exception of the winter of 1696-1697.

The archaeological remains of the settlement at Ferryland have been the subject of archaeological research since as early as the 1880s (Gaulton 2006: 30). Following exploratory excavations between the 1950s and the

early 1970s, intensive excavation was initiated in 1984 by James Tuck of Memorial University (Tuck 1993: 296). Work further intensified after 1991 and continues today. Significant features include the waterfront, a stone warehouse with attached privy, forge, cobblestone streets, defensive works, dwellings, midden, and a barn (Tuck and Gaulton 2002: 202). Over a million artifacts have been recovered and analysis is ongoing.

Pope (1992: 257) described a social system for 17th-century Ferryland, based on that of Stuart England. At the top were the gentry, property owners with some degree of political power, such as Calvert and Kirke, as well as powerful fishing captains and the clergy. Next was the middle class, including planters trades people, and fishers. The servants, fishing labourers, and other hired labourers formed the lower social strata, which also included indentured servants who had signed contracts to work for planters for a defined period. Most of the fishing labourers did not overwinter in the settlement. Historical documents indicated that, like their peers in other English settlements, the inhabitants of Ferryland enjoyed high levels of alcohol consumption (Pope 2004: 401-403).

Oldmixon (1708: 16) reported that the native population of Newfoundland did not correspond much with the English:

> We might enlarge our Discourse on the Indians of Newfoundland, but they differ so little from those of the Continent, whom we shall frequently speak of, that ‘tis needless to say more of ‘em here; besides, by conversing with Merchants and others who have dwelt on the spot, and consulting them as have written before us, we find there is little to be depended on

> in their Relations concerning them; the Indians are either quite different know from what they were, when the first Discoverers came thither, or those Adventurers impos'd upon the belief of their Readers in the Description they gave of them.

Material culture recovered from the wreck of *Saphire* can be considered in relation to the extensive artifact collections excavated from 17th-century land-based archaeological sites in Newfoundland, and specifically to work at Ferryland, to determine the degree to which the material culture carried on the ship resembled that used by the civilian inhabitants of the island. There is an extensive literature on the archaeological investigations undertaken by Memorial University of Newfoundland at Ferryland (Pope 1986, 1992, 2004; Tuck 1993; Carter 1997; Gaulton 1997, 2006; Mathias 1998, 2006; Nixon 1999; Crompton 2001; Hranka 2007; Leskovec 2007; Tourigny 2009; Clausnitzer 2011), as well as other contemporary settlements on the English Shore such as Cupids (Gilbert 1996), Renews (Mills 2000) and St. John's (Mills and Tuck 2004; Pope 1995b, 2004b). French settlements that have also been studied, including Dos de Cheval (St. John 2006) and Placentia (Crompton 2012). Students from Memorial University of Newfoundland have also undertaken a number of studies of specific artifact types found in Newfoundland. These include studies of Rhenish, English, and French stonewares (Brandon 2006); *terra sigillata* (Gaulton and Mathias 1998); Chinese porcelain (Miller 2005); Portuguese redwares (Newstead 2008); tin-glazed earthenwares (Stoddart 2008); Somerset and Dorset wares (Temple 2004); and glass (Wicks 1999).

The Role of the Royal Navy in Newfoundland

Newfoundland's constitutional position before the 18th century has been described as "settlement without government" (Webb 1991: 157). It was English policy not to provide the services of the state in the winter, leaving the residents to create their own "moral economy" (Webb 1991: 157). While there was no formal government structure in the colony, this did not mean an absence of law.

The vessels of the Royal Navy provided the structure, personnel, authority, and force required for England to administer legal and imperial control in 17th-century Newfoundland, which operated in conjunction with an informal civil regime based on common law and local custom. Jerry Bannister (2000, 2001, 2003) has intensively studied the legal context and political implications of naval governance in 18th-century Newfoundland. He argues that in spite of the limited nature of statutory law and imperial authority, an effective system of governance based on common law emerged in Newfoundland, which successfully upheld social order and enforced the power and authority of imperial government even in the absence of formal institutions (Bannister 2000: 18). Bannister's studies discuss conditions in Newfoundland in the early 18th century, following the codification of naval government in King William's Act, and are focused primarily on legal, political, and strategic aspects of the colonial presence of the Royal Navy in Newfoundland, rather than the complex social and economic relationships

between naval personnel and other inhabitants of the island. By incorporating material culture into the analysis and by applying social theory to the study of archival documents regarding the role of *Saphire* and the Royal Navy in late 17th-century Newfoundland, new insights can be gained.

The captain of the convoy had legal authority over the entire island for the duration of the fishing season (Bannister 2000: 18). Along with the captains of certain fishing vessels, English naval officers served as judges in trials.

The Royal Navy's ships not only protected the coast of Newfoundland from hostile forces, but asserted surveillance over the local population in areas under English authority and allowed for the monitoring of the inhabitants and seasonal fisherfolk along the Avalon Peninsula, including their homes, fishing vessels and work stations. This allowed the Royal Navy to exert social control and to create the feeling that the local population was potentially under observation at any time.

It is proposed that prior to King William's Act, the imposition of naval government over the dispersed population of the island was a matter of "negotiated authority" that was sensitive to the customs of the country, but also depended on reciprocal face-to-face relationships between naval personnel and civilians of all classes. As naval deployments to the island began to stretch over weeks and then months, captains and crews became

increasingly dependent on trade with the local population for supplies and provisions and the complexity of social interactions increased.

Miles's (2000) thesis examined the station ships and convoys sent to Newfoundland during the Nine Years War, finding that the Royal Navy provided a consistent link across the Atlantic with the centralized bureaucracy of England. Small groups made up of the smaller warships of the Royal Navy were dispatched on an annual basis, which created a stable naval presence.

As it began its return voyage, the Newfoundland convoy also played an important role in Mediterranean trade (Hornstein 1991: 58). While primarily intended to protect ships carrying cod from Newfoundland to markets in Portugal and the Mediterranean, they also provided protection to ships that were sailing exclusively on the Mediterranean routes.

Government

Bannister (2003: 33) asserts that a system of naval justice was already well established by 1701, with the commanders of naval vessels sending their lieutenants to the small harbours to settle disputes between merchants, fishers, planters and servants. He cites an example from 1680 in which the Commander of the *Assistance* presided over an informal court session for four men charged with destroying French fishing installations. These may have been modeled on the naval court martial, with which the naval officers would have been familiar.

During the summer season, a system of fishing admirals was in place (Bannister 2003: 30-31). Under this system, the commander of the annual convoy was not only the ranking officer of the Royal Navy's ships, but also served as the appeals court judge. Thus, the naval Commanders were not only responsible for the defense of the English Shore, but also had an informal role in the judicial affairs of the island, although their role as *de facto* seasonal governors was not yet clearly outlined in law. In the absence of a local colonial government, naval personnel were expected to fulfill a role in controlling the permanent and seasonal populations of Newfoundland.

In 1675, Sir John Berry was dispatched to Newfoundland to report on the conflict between "the fishermen-setters and their would-be rulers." (Webb 1991: 351). Berry reported that it was "my opinion that his majesty will never have a Regulation of this fishery unless a Governor be settled… for here … he that is strongest treads down the weaker." (Webb 1991: 351). His recommendations were adopted in 1676, limiting local merchants and sea captains in their ability to make demands on labourers and recognizing the Commodore of the naval convoy as governor of the island for the duration of his presence over the summer season.

The role of naval commanders as de facto governors in Newfoundland was explained by Oldmixon (1708: 11):

> They have no settled Governour: But in time of Peace the first Master of a Ship that arrives there, tho he commands a Bark but of 30 or 40 Tuns, is Chief Governour for that Fishing Season, by the Stile of,

> Lord of the Harbour. In time of War the Government is more noble, for then 'tis lodg'd in the Commadore, or Commander of the Squadron who is sent thither to defend the Fishery. If there come but two or three Men of War, the eldest Captain is Governour of the Country as well as Admiral at Sea; if but a single Ship, the Commander that has that honourable Office, and in the Absence of the Captains of the Men of War, and the Lord of the Harbour, the Captain of the Land Forces in the Fort of St. John's Town, is Governour by his Place; and both the one and the other are Lord Chancellors, and decide arbitrarily in all Cases. There's no need of much Law, for the Inhabitants have not much Land, and no Money. They truck with one another for what they want and have; and Breaches of the Peace, or taking a way a Man's Goodes without giving Truck, stealing of Nets or Fishing-Tackle, are the main Causes that come before the Governour for the time being., who summons the Criminal before him and his Sentence is definitive. … If a Man commits murder, he is sent in Chains to England, and unless witnesses are sent with him, which is expensive and not always possible, he takes his Trial at the Old Baily, is acquitted, and goes home again; as was the Case of a Person who was accus'd of Sodomy 3 or 4 years ago.

Serious crimes were tried in court in England. Criminals and witnesses had to travel to Britain for trial, and this was unsurprisingly a rare occurrence. However, this meant that no courts were available to settlers during the winter. Residents sought the provision of year-round court institutions (Webb 1991: 157). In the meantime, they dealt with crime as best they could; sometimes this meant convening informal courts to apply English common law with no official sanction in the early 18th century (Webb 1991: 158).

King William's Act of 1699 sought to balance the need to defend England's claim to Newfoundland with the protection of the migratory fishery

(Webb 1991: 157), and it remained the constitutional law of Newfoundland for a century. It recognized settlement as legal and provided for the use of fishing rooms by settlers. It sought to ensure that the settlement population would not become so large as to impede the migratory fishing industry, by stating that no government services would be available to those who chose to stay the winter.

In 1700, Michael Richards was appointed as the first lieutenant governor and a garrison was established to replace the local system of fishing admirals and to establish year-long government (Webb 1991: 495-496). In part, this was motivated by the need for better organization to resist attacks by the French and their Indigenous allies. The form of government remained highly personal and political organization was weak (Webb 1991: 495).

As Webb (1991) discusses, the inhabitants of St. John's in 1723 feared anarchy and lawlessness over the winter after the migratory ships had left for the season. The English government had not provided them with a court of law, so they sought to create their own based on the writings of philosopher John Locke's second treatise about civil government from 1690. Fifty-one men pledged to elect and follow the decisions of three magistrates, thus forming their own political community (Webb 1991: 156).

Following this, the naval commanders began appointing a winter justice for St. John's in 1727 (Webb 1991: 163), and this was sanctioned by

the Board of Trade. In 1729, Captain Henry Osbourne was appointed as the first governor.

King William's War

The *Saphire* is representative of a significant period in the conflict between France and England to control the cod banks off Newfoundland. During times of war in Europe, Royal Navy forces in North America were reinforced to protect trade routes from privateers and enemy warships. King William's War (1689-1697) was the first conflict between the French and English to have a theatre in North America, and the pattern that was established repeated during Queen Anne's War (1702-1713) and King George's War (1744-48).

The struggle for control of colonial North America during King William's War was focused in part on Newfoundland's cod fishery; its importance as a food source made the island a strategic political and military target. During King William's War, it was practice that two or more warships would be sent to Newfoundland for the summer to defend the merchant fleet. Newfoundland was unique among the colonies of North America in that the warships assigned to the station not only escorted the fleet of fishing vessels and merchantmen to Newfoundland and later to their markets across the Atlantic in Portugal, Spain, and Italy, but the naval ships remained on station to protect the fleet during the summer from French attack (Davies 2017: 177; Hornstein 1991: 58-59).

When war was declared between England and France in 1689, conflicts over the Newfoundland fisheries escalated. The two main population centers were by then Plaisance and St. John's. The English fishery on the eastern shore of Newfoundland was carried out "peacefully and profitably" during the reigns of King Charles II and King James I, but when war broke out between England and France following the Revolution, hostilities began between the French and English in Newfoundland, with the fisheries of both nations disturbed and settlements on both sides being destroyed:

> The English began first, and with 5 Men of War, the St. Albans a Third Rate Frigat, carrying 66 guns, being Commadore, attack'd Placentia, but were oblig'd to retreat, the French having made better Preparation for their Reception than they expected… (Oldmixon 1708: 15-16)

The French saw England as having the advantage at sea, and elected instead to harass English settlements by overland attacks. After the English declared war on the French, the French began a series of surprise attacks on isolated English outposts and settlements in North America, including Newfoundland. The first clash came in 1690, when an English privateer commanded by Captain Herman Williamson plundered Placentia.

In retaliation, the French planned an attack on the English inhabitants of the Avalon Peninsula, including Ferryland and Bay Bulls, to take place over the fall and winter of 1696. French troops and their Indigenous allies under the command of Pierre Le Moyne d'Iberville et d'Ardillère (Figure 60) were to attack by land, while naval forces under Jacques-Francois Monbeton de St.

Ovide de Brouillan, the governor of Plaisance, were planned to attack by sea (Williams 1981: 39). By September 9, d'Iberville and his troops had not reached Plaisance. De Brouillan grew impatient and set out with a small fleet to attack the English Shore.

Figure 60: Portrait of Pierre le Moyne d'Iberville by an unknown artist. (Centre d'archives de Montréal. Bibliothèque et Archives nationales du Québec, Fonds Armour Landry, P97; Wikimedia Commons)

The *Saphire* on Patrol in Newfoundland

> You are hereby required and directed to make all possible dispatch in the getting of the ship under your command in a fitting condition to proceed to Newfoundland with respect to provisions, stores, and then with the first opportunity of wind and weather proceed to Waterford in Ireland, and there take under your care and protection fifteen ships which the merchants inform us lie ready there or any others which shall be ready and bound to Newfoundland, and without loss of time proceed with them and convoy them in safety thither…

- Admiralty Orders to Thomas Cleasby, December 1695
(TNA ADM 2/20, 210 in Proulx 1979: 10-12)

Hornstein (1991: 54-55) notes a certain uniformity in the instructions given by the Admiralty to commanders deployed on convoy duty, regardless of the region to which they were sent. In general, the captains were told to provide care and protection to the merchantmen in the initial convoy, as well as to over protection to any additional English ships that might be encountered during the voyage. The captains were expected to be very accommodating to the schedules of the merchant vessels, and were often ordered to delay their departures several times as they awaited additional vessels that would join the convoy (Hornstein 1991: 56).

The primary responsibility of the frigates on the Newfoundland convoy were to protect the merchant vessels as they made their triangular route from England, to Newfoundland, to Portugal and the Mediterranean, and then back to England (Hornstein 1991: 58). The instructions for the Newfoundland convoy also specified which ports in the Mediterranean the captain was to call on after departing Newfoundland in the fall and before returning to England.

Naval vessels sent to Newfoundland were expected to protect the fleets of English fishing vessels from French privateers by cruising off the coast for the summer. The instructions to naval commanders for their patrol duties in Newfoundland also required them to undertake additional duties, such as gathering information about French activity on the island, and serving

as the temporary representative of the government during the fishing season. For example, in 1677, Captain Poole of the *Leopard* wrote to the Navy Board from St. John's that he had "sent Captain Harman to Ferryland to take an account of affairs to the southward and my Lieutenant is gone to the northward on the same errand, whilst I stay here to keep a fair correspondence twixt the inhabitants of this place and the West Country fishermen" (TNA ADM 106/327/82 in Cell 1969: 121).

Under the command of Captain Thomas Cleasby, when the *Saphire* departed from Waterford in Ireland in April 1696, it had under its protection a convoy of 15 merchant ships headed for Newfoundland. The trans-Atlantic crossing could last two to three weeks, putting the arrival of the *Saphire* in Newfoundland in mid to late May. The main fishing fleet convoy would have left England a few weeks earlier and would have already arrived in Newfoundland for the start of the fishing season (Proulx 1979: 12).

Captain William Eyton followed in the 44-gun *Saudadoes Prize*, arriving in Newfoundland in early June, where he joined the *Saphire* at St. John's (TNA ADM 106/485/86, Appendix D). While it has previously been assumed that the *Saphire* and the *Saudadoes Prize* travelled to Newfoundland together (Axis Consulting 1999: 10; Barber 1977: 306), Admiralty records indicate that Captain Eyton did not receive his orders for Newfoundland until May 5, after the *Saphire* had departed. It appears the ship was sent to reinforce the English presence on the Avalon Peninsula following

word of the planned French attack.

The two warships would have spent the summer months between May and September patrolling the coast of Newfoundland, protecting the fisheries along the English Shore, representing the Royal Navy, and settling disputes.

The Loss of the *Saphire* in Bay Bulls

According to Oldmixon (1708), the *Saphire* was patrolling off Cape Spear on September 9, when it spotted a French fleet from Placentia heading in the direction of St. John's under the command of de Brouillan. Given that the French fleet was arriving from Placentia, and Captain Cleasby intended to sail to St. John's but instead stopped in Bay Bulls, it seems more likely that the *Saphire* was actually at Cape Race (not Cape Spear) when the French ships were spotted.

In any case, we know that Captain Cleasby turned his ship towards St. John's in hope of warning the inhabitants. The French gave pursuit, and Captain Cleasby recognized the impossibility of reaching St. John's and took refuge in Bay Bulls. Once inside the sheltered harbour, Cleasby took measures to prepare his ship and the settlement for a French attack, and anchored his frigate on the north side of Bay Bulls near the outflow of Stanley River. His crew, likely with the help of the local inhabitants, hurriedly reinforce the small stone fortifications along the shore (Figure 61).

Figure 61: Detail from a chart of the coasts of Newfoundland made in 1693 by Augustine Fitzhugh, showing English fortifications and anchorages in Bay Bulls. (NorFish Platform: Databases & Cartography Hub, http://cehresearch.org/norfishplatform/items/show/4)

The major part of the French fleet continued towards St. John's, but two ships, one of which was the *Compte de Thoulouse*, were sent to follow the *Saphire* into Bay Bulls, but were unable to enter the harbour due to wind and tide. When the fleet reached the Narrows of St. John's harbour, they were again prevented by the weather from entering the harbour. After capturing Captain Eyton of the *Saudadoes Prize*, who had gone out in his pinnace to meet what he thought were English reinforcements, the French ships were carried back towards the south again. Captain Eyton informed de Brouillan that a fleet of armed English ships remained inside the Narrows at St. John's.

On September 11, 1696, the French finally entered Bay Bulls and a brief engagement followed. The English being vastly outnumbered by the

French, the *Saphire* was intentionally burned by Captain Thomas Cleasby to prevent it being taken as a prize .

Cleasby had served as commander of the fireship *Vulture* in 1695 (TNA ADM 106/462/144). While in most situations, fireships essentially served the same functions as frigates, it seems reasonable that their captains would be instructed in the most effective means of lighting a naval ship on fire, in case they received a commission to participate in a fleet action. To ensure maximum conflagration, fireships were fitted with barrels of combustible materials and troughs of reeds, while curtains soaked with combustible substances were hung from the beams, and charges of gunpowder were strategically placed on the gun deck with a fuse led to a sally port (Falconer 1780: 149-151). It is possible that Cleasby drew on such knowledge gained during his commission on the *Vulture* while preparing to burn the *Saphire*.

The English crew and officers escaped the burning ship, which was boarded by 40 French marines in an attempt to extinguish the fire and capture the vessel as a prize. Regardless, the *Saphire* would have exploded violently once the fire reached the powder room, as reported in contemporary sources. According to Oldmixon (1708: 17), all of the French troops who had boarded the ship were killed by the explosion.

The officers and crew of the *Saphire* escaped to Ferryland, about 40 km to the south, but were captured by the French. Cleasby was able to

negotiate a surrender agreement with the French that only he and his lieutenant would be taken as prisoners to France, while the rest of the inhabitants of the English Shore were permitted to sail directly to England on whatever ships remained. Cleasby and some of his officers and crew were captured and taken to France as prisoners of war (TNA CO 194/4/63/212); they were soon released as part of a prisoner exchange.

The English houses, fortifications, boats and equipment at Bay Bulls were burned. The inhabitants were taken captive and held in Plaisance or sent to England. Shortly after the attack, on September 12, d'Iberville arrived to find the settlement destroyed. However, d'Iberville continued to attack all of the remaining English settlements on the Avalon Peninsula, including Ferryland (Williams 1987; Temple 2004: 12). D'Iberville went on to capture St. John's and destroy all the British settlements except Carbonear, which managed to hold out.

At a court martial held on board the *Monmouth* on October 26, 1696, Cleasby was acquitted of the offense of having burned his Majesty's ship. His peers found that "he has done his duty, and also his officers, to the utmost of his and their powers, in the defence of the said ships *Saphire* against the enemy" (TNA CO 1/5257/49, Appendix D). By1697, Cleasby had already returned to Newfoundland as Commander of the *Lime.*

It is important to point out that Cleasby was far from an innocent victim of the French squadron. Prior to sailing for Newfoundland, he wrote to request

a set of French colours, presumably in order to draw enemy ships closer. The flying of false colours was a frequent *ruse de guerre* that was used by the navies of all countries during the age of naval warfare (Whipple 2015: 46). While the law of the sea generally required that ships fly their true colours in order to allow proper identification, during wartime, naval ships frequently carried the flags of other nations in order to elude or deceive their enemies. Warships of different nations were broadly similar and were frequently taken as prizes and entered into the ranks of the naval service in a new country. The dependence on the telescope for visual recognition of a vessel as friend or foe meant that positive identification only occurred at close quarters, with a maximum distance of about 12 miles (Whipple 2015: 48). While the rules of warfare required the true colours to be flown before engaging in combat, it might be mere seconds before they were hoisted and then followed by a broadside. It was also permitted to disguise a ship's rigging or profile and to wear enemy uniforms or civilian dress (Whipple 2015: 47)

The *Saphire* lay largely forgotten on the seabed in Bay Bulls until its rediscovery by divers in the mid 1960s, as discussed in the next chapter.

Seaborne Trade to 17th-Century Newfoundland

A further question that was explored through the material remains recovered from the *Saphire* is that of the practice of portage on naval vessels. Pope (1995a) examined the practice of portage on merchant vessels, but at various times, commissioned officers in the Royal Navy, and sometimes crew,

also had the privilege of carrying private cargo as venture on their personal accounts, either in lieu of or to supplement wages. Records indicate that the Royal Navy abolished this practice in 1686 due to abuse (Robinson 1909: 195). However, evidence from the *Saphire* suggests that these rules may have been circumvented in practice.

While the *Saphire* was a warship and was not intended for carrying cargo, it appears to have carried a small cargo of Portuguese earthenwares, and possibly other goods such as wine and tobacco pipes, perhaps stowed in the captain's store rooms.

Pope (1995a: 25) has demonstrated that wine was a typical commodity carried as portage from medieval times, but tobacco, sugar, lead and other goods were also carried, depending on what was available at the port of departure and the demand and market at the destination (Pope 1995a: 34). Fine clothes, dishes, spices, alcohol and other luxury goods would have been easy to sell. Some naval vessels, such as the French *Machault* have been found to be carrying significant amounts of cargo while on convoy duty. Quantities of knee buckles, cinnamon and snuffboxes on the *Machault*, a French naval frigate, have been tentatively interpreted as portage (Dagneau 2009: 217, 221). A similar cache of trade goods were found near the stern of HMS *Swift* (Murray, Elkins and Vainstub 2002: 110-111). This consisted of a wicker basket next to large piles of English-made plates and bowls decorated with Chinese motifs, wrapped in organic fibre, possibly for packed for

transport rather than for use on board. The quantity of these tablewares (too numerous to be used by all the officers on board), suggests that they were intended to be used on land or traded by the ship's captain.

Pope suggests that such private portage would have been traded directly to individual consumers or small retailers rather than wholesalers (Pope 1995a: 35). Pope characterizes the resident fisherfolk of the English Shore as "virtually all of who appear to have been petty traders." The practice of portage would have facilitated exchange between the isolated settlements and the wider network of trade to which the men on warships had access.

Pope (2004a: 382) asserts that while the consumption of wine was primarily a middle class indulgence in the 17th century, mariners had greater access and the disposable income to consume wine on a more regular basis at all social levels. He further shows that, because they had access to a wider range of goods and were paid regular wages, maritime communities such as those of the English Shore and Port Royal in Jamaica were at the forefront of changes in consumption patterns that led to the so-called consumer revolution of the 18th and 19th centuries (Pope 2004: 350-360). Amanda Crompton (2015) has made similar arguments refuting the supposed marginality of the French settlement at Plaisance.

Bannister (2003: 89) argues that the perceived gentility and social status of the Royal Navy officers was an important aspect of their ability to exert power and influence over the local merchants and planters and over the

fishing admirals. As such, whether a gentleman or tarpaulin, the Commanders of the naval vessels on duty in Newfoundland were undoubtedly sensitive to the need to express a certain social standing and prestige in their dress, demeanour and the everyday things that they used.

On the other hand, the image of the ideal sea officer was one of rugged masculinity. Ostentatiousness in behavior, dress or other material expressions in the ranks of the navy could be seen as signs of weakness and effeminacy (Cavell 2010: 165). This attitude survived into the 18th century, when dandyism among the naval ranks was satirized in a popular play in a dialogue between the weathered Commodore Flip and the dandy Rovewell, a "man of fortune":

> Rove: Most noble commodore, your humble servant.
>
> Flip: Noble! A pox of nobility, I say! The best commodore that ever went between two ends of a ship, had not a drop of nobility in them, thank Heaven.
>
> Rove: Then you still value yourself for being a brute, and think ignorance a great qualification for a sea-captain.
>
> Flip: I value myself for not being a coxcomb; that is what you call a gentleman captain; which is a new name for our sea-fops, who, forsooth, must wear white linen, have field beds, lie in Holland sheets, and load their noodles with thirty ounces of whores' hair, which makes them hate the sight of an enemy for fear bullets and gunpowder should spoil the beau wig and laced jacket…
>
> (Edward Thompson, *The Fair Quaker of Deal, or the Humours of the Navy* [London, 1773] in Cavell 2010: 165-166)

Historical archaeology is sometime defined as the archaeology of the modern era. The rise of consumerism is widely considered to be one of the

transformative developments of the early modern Atlantic world. Therefore, archaeologists must ask why particular individuals or groups chose to make, obtain, use, and discard certain specific items of material culture, and what values these objects had to those who used or observed them.

At its most basic, consumption can be described as the choices that people made when selecting, using, and discarding objects of material culture. Context is crucial in interpreting the meaning of consumer goods to those who used them. Objects could have multiple meanings, even to a single individual.

Ceramic Cargo

A possible cargo of Portuguese red coarse earthenwares was recovered from the *Saphire*. These are domestic wares, such as milk pans and slip-decorated conical bowls called *testos*, that do not show signs of usage (Figures 62, 63, and 64). Most of the other classes of ceramics recovered from the *Saphire*, including North Devon sgraffitto tablewares and fragments of tin-glazed earthenware, are represented by small, scattered fragments showing heavy wearing of their edges, suggesting that they were in use on the upper decks of the ships and were subject to considerable movement, breakage and scouring following deposition. On the other hand, the Portuguese redwares include many relatively complete vessels and large fragments with cleanly broken edges, indicating that they remained relatively undisturbed after the ship sank, and suggesting that they may have been

protected because they were packed deep in the hold of the ship. In some cases, there were several pieces that were identical in ware type, form, size and decoration, suggesting that they were carried for trade and not for shipboard use.

Figure 62: Portuguese redware storage container 18M48K9-1 and lid 18M38M2-1. (Courtesy of Parks Canada)

Newstead (2008) has established that such Iberian redwares found on sites in Newfoundland that have often been identified as Merida wares in fact originated from Portugal. She argues that such wares were primarily manufactured for export and would have been purchased primarily for their contents, such as wine and olive oil, but also for their fine workmanship. The English had a strong trading network in Portugal and many English merchants lived there on a permanent basis (Abreu-Ferreira 2003; Newstead 2008: 146);

English ships often traded through such middlemen rather than directly with Portuguese merchants.

Figure 63: 18M36P7-1, one of several tronconical Portuguese redware bowls recovered from the *Saphire* in relatively intact condition. (Courtesy of Parks Canada)

Figure 64: Portuguese redware puncheon or milk pan, 18M36P8-4. (Courtesy of Parks Canada)

Newstead (2008: 142) notes that Portuguese redware was a fairly common ceramic type in 17th-century Newfoundland, and they are found consistently on English sites. She argues that consumers were making a conscious choice to acquire more costly Portuguese redwares despite the

availability of functionally similar wares in the ports of Devon. Newstead notes that Portuguese redware serving and multi-use vessels are of high quality, and that, along with their perceived exoticness, this may explain this consumer preference in the maritime communities of Newfoundland, particularly for more highly decorated pieces (Newstead 2008: 148-149).

CHAPTER 7: LIFE ON A 17TH-CENTURY WARSHIP

A naval vessel embodied its own social structure based on a well-established hierarchy, which was constrained and navigated through its own customs, rituals, diet, clothing, amusements, and personal possessions, creating a series of entanglements and assemblages of practice.

Social Organization

Marcus Rediker (1986, 2004) has sought to examine the physical and social experience of seafarers in contrast to the popular conception of seafaring as a romantic activity. He views maritime history as working class history, and as a means to allow the history of modern maritime capitalism to be examined from the ground up. Rediker's approach focuses on the social dynamics of shipboard life and the experiences of those who worked and travelled by water.

Flatman (2003: 151) has proposed that maritime archaeology can be used to illuminate the nature of shipboard societies, and their relationship with the larger societies within which they function, through such lenses as class, race, and gender. He argues that the social structures of naval ships can be compared to those of other strictly regimented and hierarchical societies such as prisons, military garrisons and hospitals, in that they comprise predominantly male populations living in potentially dangerous and highly regulated living and working spaces.

Assembling the Officers and Crew

There were three main routes of entry into the naval service. Young men and boys entered as servants or apprentices to the officers and crew; men volunteered by their own free will; or, especially during wartime, they might be recruited involuntarily through impressment.

The men who volunteered for service in the Royal Navy had a variety of motivations. Many, particularly among the midshipmen and officers, were career seamen where seagoing was the family business, or from ports where there were few other attractive career options (Davies 2008: 88). Regional networks developed through which ambitious men supported each other's careers and advancement through the ranks. One example is seen in Clowdisley Shovell, who served as Sir John Narbrough's lieutenant in the Mediterranean before receiving his first command on board the *Saphire*. Shovell was from the same region of Norfolk as his mentors and benefactors Sir Christopher Myngs and Narbrough, who watched over his career and ensured that he move up through the ranks. On the other hand, for ambitious young men who lacked such family connections, the navy still represented a viable route to social advancement through skill and hard work.

Others may have gone to sea in search of adventure or as relief from acute poverty or indebtedness on land. For example, the naval chaplain Henry Teonge went to sea in 1675 to escape from his mounting debt as his income became inadequate to support his growing family (Teonge 1825). On

June 23, 1675, Christopher Sowman, Keeper of the Martials Gaol in Southwark, London, wrote an account of one Thomas Shorter, whom the keeper had released after paying some of the man's debts from his own pocket, "he being so miserable an object and his creditor so severely cruel to him" (TNA ADM 106/313/291). A marginal note indicates that Shorter was entered into the books of the *Saphire* in Harwich immediately following his release.

In 1674, a quota was established that allowed one maimed man to be employed for every fifty able-bodied men in the crew of a warship, as a means to provide them with a reliable living and in recognition of their sacrifice for the service (Davies 2008: 124). Silas Taylor, Storekeeper at Harwich, dutifully reported to the Navy Board the entry of a "cripple" into the *Saphire* on July 1, 1675 : "Joseph (not Edward) Dixon, wanting a leg, is here, and was mustered yesterday; he hath been here these 4 days" (TNA ADM 106/311/219, Appendix D). Such men might act as able mates or servants to the warrant or petty officers: "He assisted the boatswain and very readily yesterday" (TNA ADM 106/311/215).

Regardless of their motivations, once a man was entered in the navy's books, considerable efforts were made to ensure they remained in the service. Often, when a ship returned to England from overseas, the men were not permitted to go on shore, but were transferred directly into a ship on its outbound voyage to reduce the number of desertions. For example, when the

Saphire returned to Plymouth in May 1694, the dockyard commissioner wrote to the Navy Board of his plan to turn the men from the *Saphire* over to the *Ruby* and the *Anglesey*, “which I will deliver in one time, when the said ships arrive here, judging it necessary to keep the said order with all the secrecy possible, lest the men get notice of the design to remove them and so make their escape, as in such cases they generally do” (TNA ADM 106/449/227, Appendix D).

Ranks and Divisions

As each man boarded the ship, he was assigned a rating by one of the senior officers, which was recorded in the muster book, and determined his pay and responsibilities (Davies 2008: 122). Figure 65 provides an overview of the social organization on a small warship such as the *Saphire* during the 17th century. Warrant officers were assigned to the ship when it was launched and standing officers remained with the vessel even when it was laid up in ordinary. In contrast, commissioned officers were appointed to the vessel for a specific voyage only when it was sent to sea.

The names of the *Saphire*’s officers included in this chapter are derived from the October 1695 muster list, which is the last to survive for the ship (TNA ADM 36/3355).

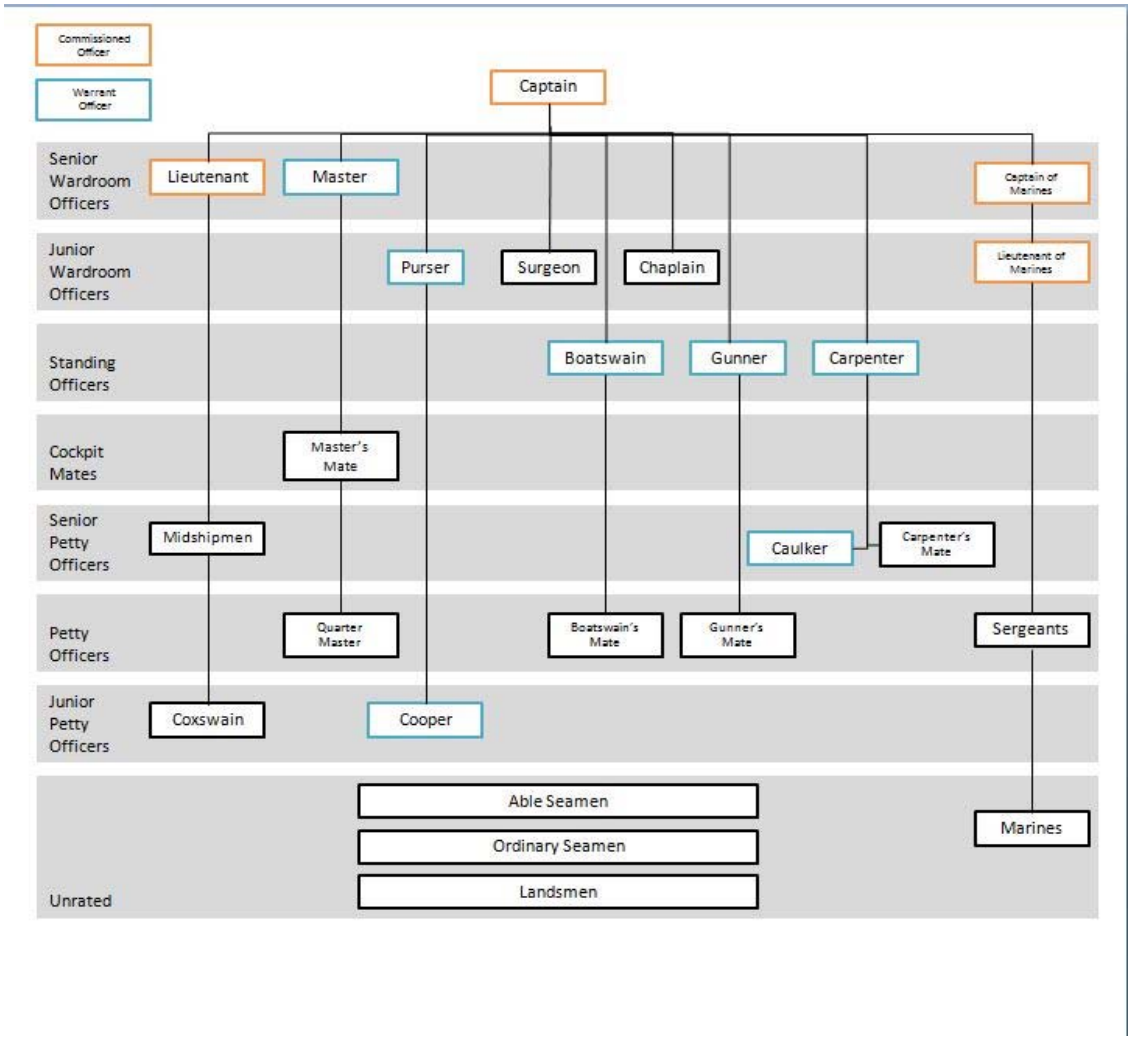


Figure 65: Social organization on board a small warship.

The lieutenant was also responsible for assigning the men to watches, stations, and quarters according to their roles and responsibilities. The watch system ensured that not all of the crew would be off duty in the space below decks at the same time (Rodger 1986: 25-27). With some exceptions, the entire crew was divided into the larboard and starboard watches, who alternated responsibility for operation of the ship in 4 hour increments (Davies 2008: 135). The “idlers” included the functional specialists such as the

carpenter, cooper, cook, and sailmaker, and were exempt from standing watch as they performed their duties primarily during the day.

Station assignments outlined clear roles for the performance of complicated operational maneuvers that required all hands on deck, such as mooring and unmooring the anchors or tacking the sails.

Quarters (as in, “to beat to quarters”) determined the stations of the men during battle. Most of the seamen were quartered to the gun crews, which were each assigned to a specific pair of guns on the port and starboard sides of the ship. Other specialized stations during a battle included the sail trimmers, pump crews, firefighters, topmen (placed in the tops with small arms to defend the ship), the gunner stationed in the magazine, and the powder monkeys, young boys who ran the cartridges up to the gun crews. The surgeon and his mates were stationed in the bottom of the hold to care for the wounded, while the caulkers and carpenters stood by to repair any critical damage to the ship. Drills were held on a regular basis in which the crew would be beat to quarters to the sound of drums or a whistle to ensure that each individual clearly understood their responsibilities and could execute them as quickly as possible

Commissioned Officers

A commissioned officer is one whose authority is derived through a commission from the head of state. In practice, this was typically the Lord High Admiral, though the Stuart rulers sometimes involved themselves

directly (Davies 2008: 89). In the 17th-century Royal Navy, the captain and the lieutenant were commissioned officers, having received orders from and reported directly to the Admiralty, which oversaw naval strategy and tactics.

The Commander of the *Saphire*, Captain Thomas Cleasby, played a general supervisory function and acted as the representative of the Admiralty to ensure the appropriate deployment of the vessel. Naval captains were assigned to a vessel for a specific voyage, and moved relatively frequently from ship to ship. There were two routes to the ranking of captain – the gentleman or the tarpaulin (Davies 2008: 94- 99). Prior to the mid 17th century, naval captains were most often gentlemen with little seagoing experience or expertise. However, tarpaulins, who had worked their way up through the ranks based on talent and performance, also became more common. As a part of Samuel Pepys's efforts to professionalize the navy during the reigns of Charles II and James III, experience at sea became the critical factor for promotion through the ranks.

The *Saphire's* lieutenant, James Brothers, had the overall responsibility for supervising the other officers and seamen on the watches. By the late 17th century, up to three lieutenants were assigned to the larger warships, each of whom was responsible for supervision of a watch. On the smaller frigates such as the *Saphire* there were typically only one or two lieutenants. Samuel Pepys introduced a rigorous examination requirement for lieutenants in 1677, which helped to institutionalize the principle of merit-

based promotion (Davies 2008: 92).

As the most senior warrant officer, the master, John Tilly, was assigned specifically to the *Saphire*, with which he would have remained as long as the ship was in active service (Davies 2008: 100). His primary duty was to execute the sailing and navigation of the ship according to the Captain's orders (Rodger 1986: 20). The master needed to be an experienced seaman since he was directly responsible for the handling of the ship, and he was normally promoted from a position such as master's mate, purser, or midshipman. Like lieutenants, masters had to pass an oral examination administered at Trinity House in London. In order to set a proper course and adjust the sails correctly, the master would take position readings several times a day. He was also responsible for fitting out the vessel and ensuring the appropriate supplies were acquired for each voyage, as well as overseeing the stowage in the hold to ensure proper performance of the vessel. The master entered the ships' position, expenditures and weather in the ship's log each day. The master's mate, helmsman, purser and quartermaster all reported to the master.

Masters had the primary responsibility for navigation, except when a local pilot was brought on board to navigate treacherous areas such as the Thames estuary. The masters were trained for specific named geographical areas of the seas and oceans, and were typically reluctant to take responsibility for a ship in unfamiliar waters (Davies 2008: 145). On the

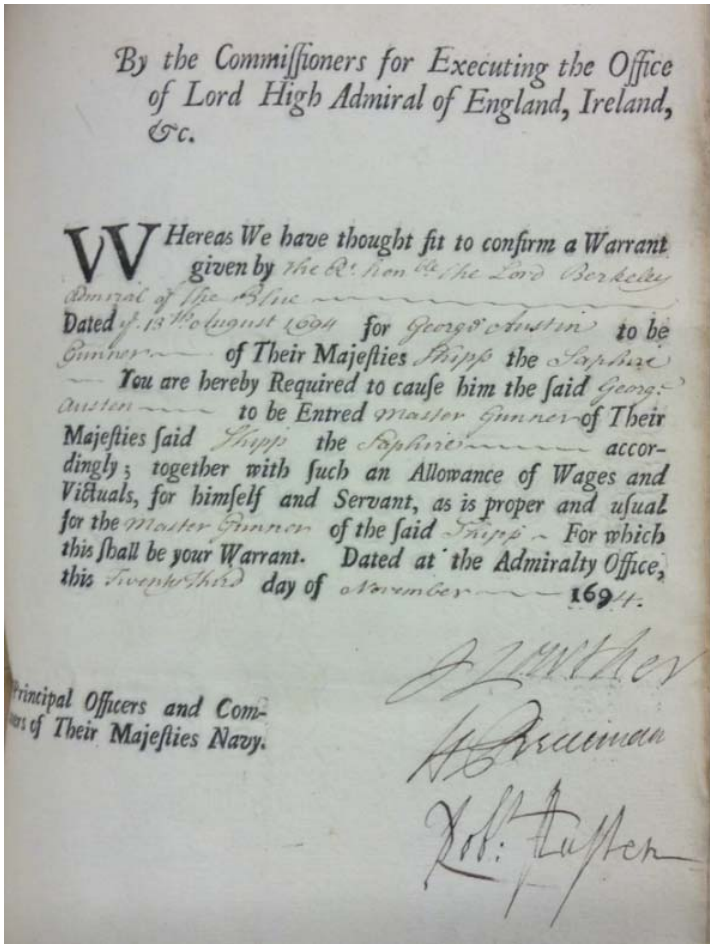
occasion of receiving orders to sail to the Mediterranean with the *Saphire* in September 1675, Captain Thomas Harman felt compelled to inform the Navy Board of his master's inexperience in that sea:

> Upon my receipt of this order I informed my master of it and demanded of him how he was acquainted in the Levant Seas. In answer to which he told me, he never was within the Straits mouth. I thought good to inform Your Honours of it that nothing of an error of that nature may be laid to my charge in not informing you. (TNA ADM 106/311/197, Appendix D)

Warrant Officers

A warrant officer is designated by a warrant, and these ranks include specialist professions that received formal recognition. Figure 66 is an example of a warrant issued for the *Saphire's* gunner, George Austin in 1694 (NMM ADM A/1813/241), and reflects the efforts to standardize many of the bureaucratic processes of the Royal Navy.

The warrant officers were often promoted from the ranks of the able seamen as they advanced in age and experience and declined in mobility. In general they were expected to be literate and to have basic arithmetic skills, which distinguished them from the common seamen. Some of them, often the master, surgeon, chaplain and purser, messed in the wardroom with the commissioned officers, while others ranked with the more junior members of the crew.



By the Commiſſioners for Executing the Office of Lord High Admiral of England, Ireland, &c.

WHereas We have thought fit to confirm a Warrant given by the Rt. Hon.ble the Lord Berkeley Admiral of the Blue ~~~~~~~~~~~~~~~~~~~~ Dated 13th August 1694 for Geo.e Austin to be Gunner ~~~ of Their Majeſties Ship.p the Saphire ~~ You are hereby Required to cauſe him the ſaid Geo.e Austen ~~~ to be Entred Master Gunner of Their Majeſties ſaid Ship.p the Saphire ~~~~~~ accordingly; together with ſuch an Allowance of Wages and Victuals, for himſelf and Servant, as is proper and uſual for the Master Gunner of the ſaid Ship.p ~ For which this ſhall be your Warrant. Dated at the Admiralty Office, this Twenty-third day of November ~~~ 1694.

To the Principal Officers and Commiſſioners of Their Majeſties Navy.

Figure 66: Warrant of George Austin, Master Gunner of the *Saphire*, signed on November 23, 1694. (NMM ADM A/1813/241)

Five standing warrant officers were assigned to each naval vessel at the time it was launched: purser, boatswain, carpenter, gunner and cook. These were permanent assignments, and the warrant officers stayed with the ship even when it was laid up “in ordinary,” and were responsible for general maintenance and security with the intention of preventing the ships from falling into disrepair when not in active service. During such times, they often made themselves more comfortable by occupying the cabins normally assigned to the commissioned officers, including the captain’s great cabin

(Endsor 2017: 46). They were typically assigned a few young men or boys to act as servants and apprentices. Lieutenants, masters, surgeons and pursers were allowed one servant each, while carpenter, boatswains and gunners were allowed two (Winfield 2009: xlix).

As the purser of the *Saphire*, William Fitzhugh maintained and controlled the *Saphire*'s stores of provisions, including food, alcohol, and water, and oversaw the distribution of the daily rations. Also acting as the ship's bookkeeper, he was responsible for the pay books and for the allocation of any prize money. He purchased slop clothing, bedding and tobacco to sell to the men. The position of purser on a naval vessel was highly sought, as there were both legal and illegal opportunities for supplemental income.

A number of artifacts found on the *Saphire* can be related to the work of the purser, although of course such objects could have been used by other men on the ship. A 4-pound copper alloy measuring weight may have been used on the ship to weigh provisions and other commodities (Figure 67). It is a Troy weight of the type that became common in the British Isles in the 15th century and that still remains in use.

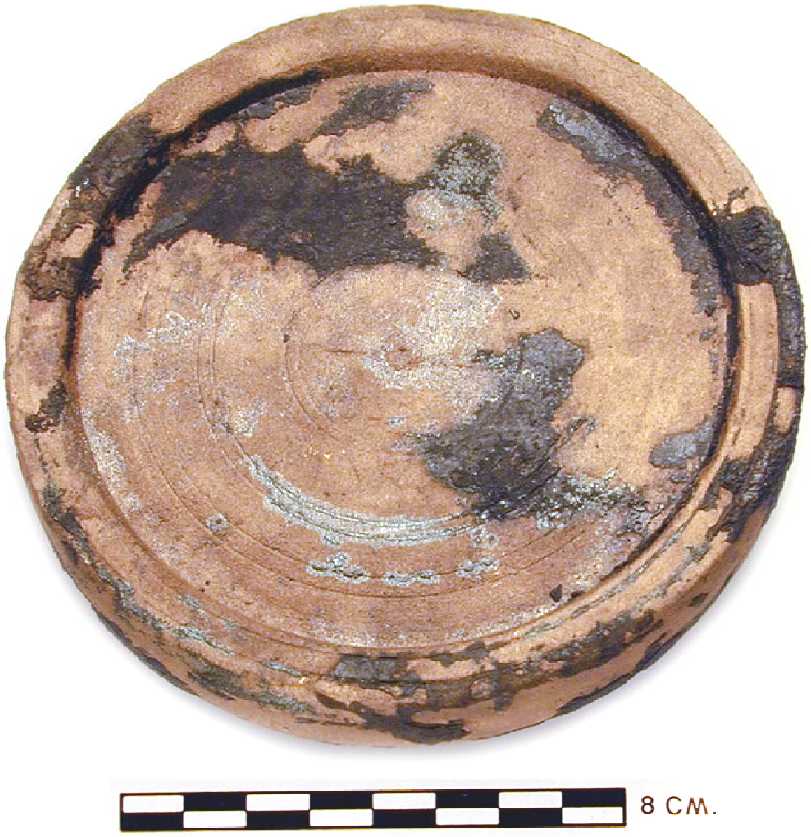


Figure 67: Copper alloy Troy weight 18M42N3-1. (Courtesy of Parks Canada)

The purser was responsible for the ship's pay and would have been responsible for purchasing provisions in Newfoundland to supplement those provided by the victualling agents. Given that the abandonment of the *Saphire* was planned over the course of at least several hours, it seems likely that portable personal objects of high value such as coins would have been retrieved by their owners prior to sinking. Only three heavily corroded copper alloy coins were found on the wreck. Only one of the three concretions was sufficiently preserved to allow identification following conservation. It is a copper half-penny minted in Ireland with the double profiles of William and

Mary on one side and a crown and Irish Harp and the date 1694 on the other (Figure 68).

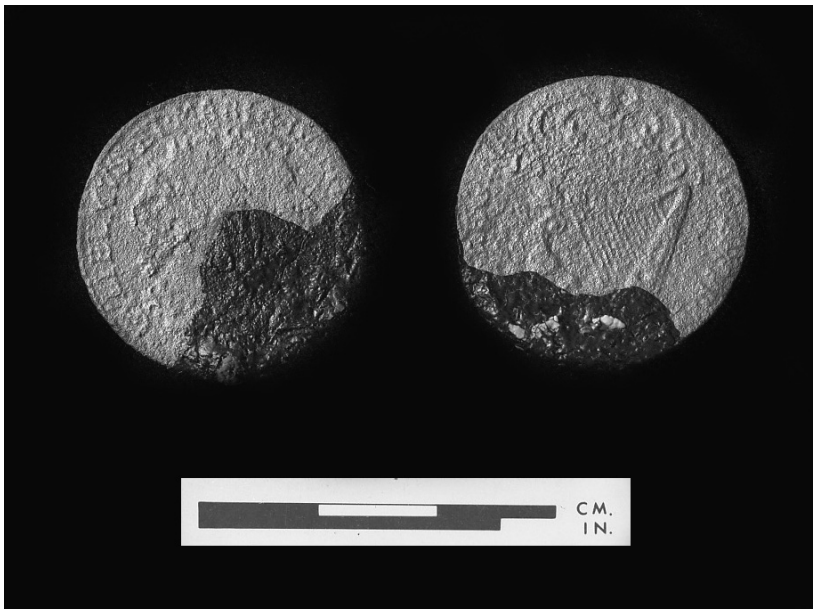


Figure 68: Irish half-penny 18M48L30-1 with busts of William III and Mary II, dated 1694. (Courtesy of Parks Canada)

These have a milled edge and are typically marked:

Obverse: Right facing busts of William III and Mary II

GVLIELMVS ET MARIA DEI GRATIA

[William and Mary by the grace of God]

Reverse: Crown and Irish harp

MAG BR FR ET HIB REX ET REGINA 1694

[King and Queen of Britain, France and Ireland]

Such coins were only minted for three years between 1692 and 1694. One of the other concretions is thought to have contained a similar half-penny and the other is considered indeterminate. The coins were all recovered from

the midship area and most likely represent the personal property of one of the crew or officers. It is significant that the only coins found on the wreck are from Ireland, given that the *Saphire* met the merchant ships it was to convoy to Newfoundland in Waterford.

The primary responsibility of the *Saphire*'s boatswain, James Crows, was to communicate the orders issued by the senior officers to the crew. He would have stood at the foot of the main mast, where he could hear the master and relay the instructions to the men with his whistle. Boatswain's whistles have been recovered from a number of naval shipwrecks, including the *Mary Rose.* The boatswain was also responsible for the inspection and general maintenance of the ship's hull, boats, sails, rigging, cables, and anchors.

The master gunner of the *Saphire*, George Austin, was responsible for maintaining the ship's guns, carriages, tackle, munitions, and powder, and for training and supervising the gun crews. Unlike the marines, who had their own chain of command, the gunners were part of the naval corps and were expected to assist with the handling and sailing of the ship as well as being responsible for the maintenance and operation of the guns and weapons (Rodger 1996: 22). Typically, a number of quarter gunners reported to the master gunner; each was responsible for the operation and maintenance of four guns with the assistance of less experienced seamen and marines. The gunners were responsible for the storage and management of the powder,

shot and small arms (see Chapter 4).

The carpenter, Thomas Hall, was expected to keep the *Saphire* in good repair whether at sea or in home port. In addition to being able to repair damage to the hull and rudder and stop leaks under difficult circumstances, he was expected to know how to design and build impromptu replacements for the masts and spars, blocks and tackle, and the boats.

The *Saphire*'s cook, Roger Tirrith, oversaw the preparation and distribution of the crew's food (Davies 2008: 102). One of the cook's responsibilities was to steep the salted meat in a tub of seawater stored in the chainwales to remove the excessive salt used to preserve it. The cook was frequently an older seaman with an injury that prevented him from serving on the decks.

The surgeon, George Bussell, was responsible for treating the sick and injured on board the *Saphire* and likely he and his mate also provided the services of a barber, apothecary and physician. Surgeons were expected to treat wounded men during combat, performing amputations and treating wounds caused by deadly splinters and explosions, know how to set broken limbs and treat wounds and sores resulting from accidents, corporal discipline, battle injuries and sexually transmitted disease. By the mid 17th century, as naval voyages became longer, the surgeon was also expected to be a physician and to know how to treat disease (Goodwin 1987: 216).

The Royal Navy struggled to find suitable qualified surgeons who were willing to go to sea, and many inexperienced men ended up in the position for which they were sorely underqualified. Naval service helped young surgeons develop skills and gain experience and offered guaranteed pay, but at lower rates than private practice. The pay slowly improved until the basic rate of pay rose to a respectable 5£ a month, with an additional pay of 2d per month for each member of the crew, which was deducted from the men's wages, known as "groats" (Wakeley 1957: 275).

Bussell was appointed to the *Saphire* by the Barber-Surgeon's Company in London, who supplied him with a chest of supplies, which he was expected to present for inspection prior to taking on a new commission. (Wakeley 1957: 272-273). While on board ship, surgeons were provided with an allowance, called the "free gift" with which they purchased drugs and medications to replenish their chests (Davies 2008: 167). While certain supplies were considered expendables and were paid for by the navy, the surgeon was expected to supply his own instruments.

While chaplains were commonly commissioned to larger warships, there was no certainty that one would be assigned to a Fifth Rate frigate such as the *Saphire*. When Clowdisley Shovell took up his first command on the *Saphire* on September 18, 1677, he "received an order to entertain Mr. Robert Taylor my chaplain with his servant" (TNA ADM 51/857). While on duty in Newfoundland in 1680, the Fourth Rate *Assistance* had on board a

naval chaplain who wrote a detailed account of the island based on his observations (Pope 1996, 2004: 24)

In addition to receiving an ordinary seaman's pay, naval chaplains and surgeons both received part of their income in the form of groats, or a deduction from the wages of each seaman on board. Therefore, the larger the ship, the greater was the potential income. When combined with the provision of ample drink and victuals and the temporary escape from creditors, it is easy to understand the attractions of naval service to an impoverished preacher such as Henry Teonge, whose detailed diary provides some insight into the experiences of a naval chaplain in the late 17th century.

Regular services were held on Sundays according to the conditions of the voyage, the health of the crew, and the inclination of the captain, and might be missed due to storms, encounters with enemy vessels, or illness of the captain. Teonge marked each diary entry on the Sabbath by circling the date and dutifully recording the subject of his sermon. Teonge does not mention prayers being held on other days of the week, suggesting the possibility that English were less pious than their Spanish and Portuguese contemporaries, who had daily services. When weather permitted, sermons were sometimes delivered from the quarterdeck (Teonge 1825: 223).

Teonge's diary never explicitly states what tasks he was expected to perform in addition to his religious duties. However, a reading of the narrative suggests that although he was never directly involved with the sailing and

handling of the ship, he was expected to participate in minor maintenance tasks such as mending sails, making cartridges for the guns, helping to build barricades on the quarterdeck, and caulking and tallowing the ship (Teonge 1825: 188, 192, 193, 226). He also eagerly took up arms at times of potential conflict.

Petty Officers

The petty officers were assigned by the ship's captain and included the coxswain, the steward, the corporals, the midshipmen, the quarter gunners, the captain's clerk, the quartermasters, the master at arms, the yeomen of the sheets and of the powder room, and the mates who assisted the more senior officers (Rodger 1996: 348-351).

Midshipmen

The midshipmen were officers in training. They were often very young, perhaps aged between the ages of 12 and 18, and often went to sea under the guardianship of senior officers with whom they had a family connection. Despite their young age, they were given substantial authority over the seamen. The expectation was that they should be promoted to lieutenant by their early 20s.

Marines

The marines, or naval infantry, formed their own hierarchical structure under a sergeant. Their primary role was in the defense of the ship, and in boarding of enemy ships. They were trained in the use of small arms, and

manned the tops during action. Sometimes parties of marines were sent out in the ship's boats to capture enemy vessels. They also functioned as a security force on board the ship. They were berthed between the officers and the crew, and remained a certain level of social distance from the rest of the crew.

Seamen

Warships carried large crews to work the rigging, but more importantly a large number of men were needed for the gun crews during battle. There were at least four divisions among the sailors: able seamen, ordinary seamen, landsmen and boys (Rodger 1996: 26; Davies 2008: 125-127).

The designation of able seaman was reserved for men who had the experience required to steer the ship and work the rigging. While not always held in high esteem, and with a reputation as coarse and illiterate men, a considerable amount of skill was required to carry out their duties effectively (Davies 2008: 125). An able seaman might be given considerable responsibility and be expected to oversee the less skilled sailors. For example, able seamen might be assigned to act as the captains of the tops for each mast, or as the coxswain, responsible for managing the ship's boats. In exchange, they received better pay.

The navy generally considered that a year at sea could make a landsman into an ordinary seaman, and that two years would make an able seaman (Rodger 1996: 26). As a minimum standard, captains preferred to

have at least one-third of their crew composed of able seamen, one-third ordinary seamen, and no more than one-third landsmen to ensure adequate operations (Rodger 1996: 26). Landsmen were recruited and impressed in greater numbers during wartime, resulting in crews that had less overall experience.

The skill set of a sailor was transferable between the naval and merchant fleets, and men often crossed back and forth between them. Naval reserves were often composed of merchant sailors, and naval policy under the Stuart kings supported the Newfoundland fishery as a nursery for the navy.

For a seaman, naval service entailed a number of pros and cons. On the positive side, the larger crews on a naval vessel generally meant that physical duties were less onerous than on a merchant ship. Unlike in the merchant service, pay was guaranteed (even if the ship sank), though it was not often received in a timely manner. The prospect of prize money was a very real incentive. The quality of food on warships was widely considered to be of better quantity and more plentiful than on merchant vessels. Naval ships carried a surgeon, so medical attention was available and the chest at Chatham provided a basic pension to injured seamen. In addition, there was some possibility of recourse or appeal for abusive behavior within the naval hierarchy, as seen in petitions sent by men serving on the *Saphire* to the Navy Board.

On the negative side, the large crews on naval ships led to extreme crowding and a lack of personal space. Discipline was very strict and there was a lack of personal freedom, seen in the severe punishment for deserters. Opportunities for advancement were more limited than in the merchant fleet, and the pay was less than on merchant vessels. In addition, there was the obvious danger of being on board a war ship during battle.

Distribution of Space

One of the most precious commodities, and thus a key marker of social status, on a naval vessels was space. Individuality, privacy and space were privileges of rank on a naval ship. The crew of a warship ate communally while the officers would have used individual place settings at a dining table (cf. Deetz 1977); similarly, the crew slept in a communal space, and those of higher rank enjoyed private cabins, with the captain symbolically enjoying much more space than anyone else. In comparison to larger ships of the line, a frigate was very small and cramped. Conditions on board during long voyages would have been challenging. In general, living space and privacy increased as one rose through the ranks.

It was important that the gun decks could be cleared in preparation for any engagement to ensure that the gun crews could work with maximum efficiency. The bulkheads used to create compartments above the waterline were light and portable so that they could be removed before battle to reduce the risk of deadly wooden splinters, which were responsible for more deaths

than the actual iron shot. This could include cabins on the gun decks, which were also made from canvas screens in the late 17th century (Goodwin 1987: 111). A list of work to be completed in the fitting out of the *Saphire* in July 1675 by Phineas Pett, Master Shipwright at Woolwich, are “frames for canvas cabins” and “curtain rods for the captain’s cabin.” Below the waterline, bulkheads for stowage of stores and provisions, such as the shot locker, would be more permanent construction as there was no risk of them being hit by enemy shot.

The midshipmen got their name from the central steerage area on either of side of the mainmast that they occupied. On either side of the mainmast was the steerage, where the midshipmen would have slept in beds or hammocks.

The lower hold would have had the cabins for the surgeon, purser, steward and captain’s clerk, as well as stores for the steward and slops. The forward hold often housed the cabins and stores for the gunner, boatswain, carpenter. The forecastle might have cabins for the boatswain and carpenter.

The captain’s accommodation, typically including a day cabin, sleeping quarters and a dining space, occupied the prime location in the stern of the vessel and was furnished at his own expense.

The first lieutenant and other senior officers would have cabins just forward of the captain. The remainder of the crew were berthed on the gun deck, with the midshipmen housed literally in the middle of the ship.

The crew would have had few personal possessions and little time and space to enjoy leisure activities. When the seamen first boarded, the lieutenant assigned each of the men to a mess and instructed them on where to hang and stow their hammocks and their sea chests. Henry Teonge (1825: 42) described how the seamen were expected to do without even the luxury of an individual sea chest, in order to keep the decks clear: “we overhaul the seamen’s chests and order only two for a mess, and the rest to be staved, lest they trouble the ship in a fight.” Presumably the remaining two chests were used as seating by the messes.

For the common seamen, privacy did not exist. At the time of her initial fitting out in 1675, 50 hammocks were ordered for the *Saphire* (TNA ADM 106/311/191), presumably indicating that each hammock was shared alternately between two men on rotating watches. Hammocks were typically made of canvas with wood spreader bars and were slung on hooks between the beams on the gun deck. Hammocks had the advantages of keeping the men up off the wet decks and of being easily stowed during the day in the hammock rails, which provided additional protection from gun fire during battle.

In 1673, at Pepys’s urging the Lords of the Admiralty issued an order to the Navy Board requesting the establishment of the maximum number of cabins that could be allowed on a ship of each rate (Lavery 1987: 155), as a result of the

> Very great charge and many other inconveniences rising by the unlimited number of cabins built in the king's ships. This led in particular to the pestering of the ship, contracting of sickness, temptation of officers to neglect their duties and misspend their time in drinking and debauchery, and the danger of fire, besides its being a charge not in any degree allowed either in the French or Dutch ships." . (Tanner 1897: 683)

The assignment of cabins was formally established and was to be strictly observed "so as that each officer to whom any… are therein so designed, may enjoy the same as a right belonging to his place, without being subject to be dispossessed thereof by his commander or other superior officer." (Tanner 1897: 683).

For a Fifth-Rate:

> Round house – the master …. 1
> Bulkhead of the steerage on the starboard side – the carpenter …. 1
> Larboard side – a lieutenant…. 1
> In the steerage – two mates and midshipmen…. 1
> Bulkhead of the gunroom – gunner and chyrurgeon…. 1
> Cockpit – purser…. 1
> Steward room…. 1
> Bulkhead of the forecastle – boatswain and cook …. 1
>
> In the steerage of a fifth-rate ship no cabin to be more than five foot six inches long, and four foot wide upon the upper deck. (Tanner 1897: 685).

The round house refers to the rounded bulkhead at the forward end of the cabin, as shown in the sketch of a Fifth Rate by van de Velde (Figure 69). In 1630, Boteler similarly noted the round house, which was "the uppermost room or cabin of any note upon the stern of a ship. and it is the proper place for the Master; and the deck or cover over it is named the Poop of the ship."

Figure 69: Portrait of an unidentified English Fifth Rate by Willem van de Velde the Younger, circa 1675. (National Maritime Museum, Greenwich, London, https://collections.rmg.co.uk/)

Officers were expected to provide their own bedding for their cabins, and beds were an item frequently requested from the Navy Board. Henry Teonge describes using the last of his meager funds to purchase a small sea-bed, a pillow, a blanket and a rug before departing London on his first voyage (Teonge 1825: 28). He considered these the only absolute necessities for the voyage, going so far as to pawn his cloak and mare to buy them.

During the day, the quarterdeck was the exclusive purview of the commissioned officers, and certain of the warrant officers and seamen as required for operations. Anyone else required permission. The quarterdeck afforded an elevated position and allowed for a panoptic view of the upper deck.

Daily Routine

The naval clock runs from noon to noon, divided into four-hour watches marked every half hour with a bell, fitted in the belfry, which by the late 17th century had been moved from the quarterdeck to the forecastle (Figure 69). Orders were communicated verbally or by the whistles carried by the master, the boatswain and the coxswain.

A small brass bell was recovered from the *Saphire* (Figure 70). Measuring only about 10 cm in height, it has been interpreted as too small to be the ship's bell, but rather as a cabin bell (Barber 1977: 310). In comparison, the bell recovered from the Fifth Rate *Dartmouth* measured 39.4 cm in height and weighed 32.9 kg (Adnams 1974: 270). Indeed, while fitting out the *Saphire*, Captain Thomas Harman mentions exchanging a "cabben bell" with another ship, his being broken (TNA ADM 106/311/194). In another letter, Harman requests a "watch bell in iron" (TNA ADM 106/311/191), which would have been less likely to have survived underwater. It is not common to find multiple bells on a shipwreck site, but if a larger bell were visible at the time the wreck was discovered, it would have been seen as the ultimate trophy by the salvage divers.

Figure 70: Small brass bell ChAe-1:28. (Photo by the author)

Days were spent in gun drills or in the maintenance of the ships, using mops, buckets and holystones to scrub the deck. Different days of the week were assigned to different activities such as wash days for clothing, and sermons on Sundays.

Control and Resistance

A warship provided almost complete control over the physical conditions of the men on board, created working groups and social hierarchies, and put every aspect of their lives under regulation and observation (Ward and Baram 2006: 136). Not only work, but also rest, recreation, meals, and other social interactions were all tightly controlled (Flatman 2003: 149). A rigid system of hierarchy dominated all aspects of life aboard, and naval authority was projected not only through social activities,

but also through material culture. For example, the Royal Navy used a broad arrow symbol to mark its ownership of virtually every object on board (Figure 37). This was not only a means to prevent theft, but also an expression of authority.

Order was essential to the successful operation of a naval vessel. The range of punishments seems to have depended to some degree on the whims of the captain and officers, although there were limits on their authority and the men had the possibility to appeal to the Navy Board if punishments were too severe.

Henry Teonge's diary is full of references to naval punishments, which usually took place on Black Monday (Teonge 1825: 55). The most common punishment was ducking at the yard arm and other ordinary punishments included confinement, extra duties, and being denied a ration of alcohol or leave to go on shore. The most severe punishment was reserved for a thief: "a seaman had twenty-nine lashes with a cat-o'-nine-tails, and was then washed with salt water" (Teonge 1825: 220). For minor punishments, the captain had discretion to be rather creative. For example, "…two seamen that had stolen a piece or two of beef… had their hands tied behind them, and themselves tied to the mainmast, each of them a piece of raw beef tied around their necks in a cord, and the beef bobbing before them like the knot of a cravat, and the rest of the seamen came… and rubbed them over the mouth with the raw beef" (Teonge 1825: 39). On another day, "Isaac Webb

stood tied to the geares an hour, and had *speculum oris* placed in his mouth for saying to a seamen in the Captain's hearing: 'Thou liest, like a son of a whore'" (Teonge 1825: 219).

However, a commander's authority was not absolute. Cases of tyranny and excessive brutality by the captain were sometimes met with recorded instances of resistance, ranging from simple desertion to mutiny. In April 1677, the warrant officers of the *Saphire* together took the bold step of writing to the Navy Board to ask to be reassigned to another ship (TNA ADM 106/328/006; Appendix D). The master, boatswain, gunner and carpenter each signed the letter, to complain about their commander, Captain Thomas Harman: "the severity of our Commander, who is so severe unto us that we can hardly live under him, and to please him it is impossible. We have strived to do it to the utmost of our power but cannot which makes as if we are our lives a burden to us." The petition proposes that, while they do not wish to desert the service, they hope to serve under other commanders "that we may give content unto."

Word of Harman's violent behavior apparently reached the ears of John Brisbane, the Judge Advocate and the navy's highest judicial officer. Harman was a highly respected naval officer, having achieved fame when, in command of the *Tiger*, he successfully defended a convoy of English colliers against an attack by eight Dutch privateers in 1672 (Charnock 1794: 335). As such, Brisbane seems to have invited Harman to defend himself against

accusations of his “violence and nastiness” to his officers and mariners that had been brought to Brisbane by other naval commanders.

In August 1676, Harman wrote to Brisbane, but his defense is not particularly reassuring and he reveals his disdain for the new approach to naval promotion based on merit rather than gentility (TNA ADM 106/08/12; Appendix D):

> Sobriety and study breeds suspicion in our acts and deeds the downright drunkard no man heeds, I believe my sobriety and one or two particular officers insobriety and insolent tongue hath been the cause, your friendly ears have heard what you do not like, this be certain that (I dare say) I have not struck one officer nor caused one sailor to be drubbed this voyage. Possibly I have struck a sailor with my cane, and so I dare say I have not worn a cane these eight months I cannot but smile at your letter. We now live in an age that a tarpaulin lad is thought fitter by some a companion for a [illegible] man then a gentleman and more fit for a master or boatswain than a commander. But the King saith desert is the honourable way of preferment and I will follow his advice. Fortune hath somewhat of the nature of a woman that if she be too much courted she is the further off.

It is not known how the Navy Board or the Judge Advocate responded to these concerns, but the warrant officers were inopportunely relieved of their problem when Harman died of wounds suffered in a confrontation with two Algerian warships in the following month.

Another interesting incident took place on board the *Saphire* in June 1689, when Captain John Tosier wrote to the Navy Board to complain that his clerk, Thomas Butler, had absconded to serve in another ship, taking all of the ship’s records with him and leaving Tosier unable to fulfill his administrative duties (TNA ADM 106/392/194). Worse still, Butler had caused

Tosier to fear for his life, locking himself into his cabin and fleeing from the ship under his command:

> I know he heartily for being one of those that would gladly cut my throat though know no reason he hath for it, I was forced into my cabin with sentinels over me from thence hurried away on board the Dragon that had not time to take a hat or gloves with me so that everything I had was left to the mercy of mine enemies.

We have only one side of this story. However, it is telling that Butler went on to be appointed Commander of the Sixth Rate *Julian* in 1693 while Tosier seems to disappear from the naval records after this date, suggesting that he may not have been forthcoming about all aspects of the incident.

Life at Sea

Status and hierarchy are expressed within the confines of the controlled environment of a ship, not only in daily behavior and social relations, but also in the material culture and distribution of space used by the officers and crew. A landsman entering the naval service for the first time, whether through impressment or as a volunteer, would have encountered a complex and obscure new world with its own rules of social relations, as well as its own sights, sounds, smells, tastes and sensations. Through active training, observation and repeated physical practice (or habitus), a landsman could became an able seaman and progress through the ranks.

Material culture and the built environment embody and facilitate social relations, and social divisions on a ship are reflected in archaeological assemblages, in terms of division of labor and in the formal controls over

space and time that typify shipboard life. Marcus Rediker (1986, 2004) has sought to examine the physical experience of seafarers in contrast to the popular conception of seafaring as a romantic activity, which has misrepresented or overlooked key aspects of the experiences of mariners.

Dagneau (2008: iv) has proposed three primary functional categories for artifacts from shipwrecks: cargo, shipboard artifacts, and personal objects. As a naval vessel, only a small amount of cargo was identified on the *Saphire*. It can also be expected that fewer personal items would be carried by the seamen in the naval service, due to the extremely tight quarters.

Spatial analysis of the distribution of artifacts on *Saphire* reflected these patterns. For example, there is a tendency for high-status items such as pewter and decorated ceramics to be associated with the officer's cabins at the rear of the ship. Ceramics excavated from the midship area are likely carried as cargo, whereas those from the stern more likely represent artifacts in use by the officers on board the vessel. For example, the presence of numerous smoking pipes suggest that alcohol and tobacco served as "little hearths" as much for naval seamen as for contemporary fishermen (Pope 2004: 396). A total of 275 pipes and pipe fragments were recovered from the wreck (Myles 1996: 46). Wine bottles likely represent the stores of naval officers for trade or gifting with the inhabitants of the English Shore or for personal consumption at sea. The relatively few artifacts recovered from the bow trench consisted of rope fragments, wooden container fragments, some

ceramic and glass sherds, smoking pipes, and bricks and tiles (Myles 1996: 15).

The personal objects recovered from the wreck of the *Saphire* provide the opportunity to better understand those "of little note," in the words of Elizabeth Scott (1994: 3). Scott uses the term in three ways: "First meaning those considered of little importance, not worthy of "notice" by the dominant social, political and economic group in a past society. Second, and following from the first, I use it to mean those considered not worth "noting" or writing about, those who therefore are not as visible to us in written records we study. And thirdly, I use it to refer to those written about less frequently, or little "noted," by historical archaeologists."

Navigation

Among the most interesting finds from the *Saphire* are the navigational instruments, which form an assemblage of practice that includes a complete wood and brass nocturnal, three pairs of brass navigational dividers and three lead sounding weights. All of these instruments were recovered from the stern and starboard midsections, where the officers' cabins were located and are typical of the navigational instruments of the 17th century (Figure 71).

Figure 71: Title page of John Sellers' *Practical Navigation* [London 1691], showing the typical navigational instruments of the 17th century, including the nocturnal, dividers and brass box compass.

The wooden nocturnal found on the *Saphire* is shown in Figure 72. When found, this was the only known nocturnal recovered intact from a wreck site. A similar nocturnal was recovered in 1981 from the wreck of the fireship *Firebrand*, which was part of Sir Clowdisley Shovell's fleet lost in the Isles of Scilly in 1707 (IJNA 1982: 254); its current whereabouts is not clear. Another similar instrument, though slightly larger, was recovered from the wreck of the French ship *La Belle* in Texas (Cook and Swanick 2017: 349), Other nearly

identical examples exist, including at least five at the National Maritime Museum in Greenwich, one at the History of Science Museum in Oxford, and one at the Canadian Museum of Science and Technology. Typically the instruments are made of pear or boxwood, with a brass fitting. Notably, one of the specimens in the National Maritime Museum is marked with a broad arrow, and this one is not, suggesting it may have been the personal property of the owner.

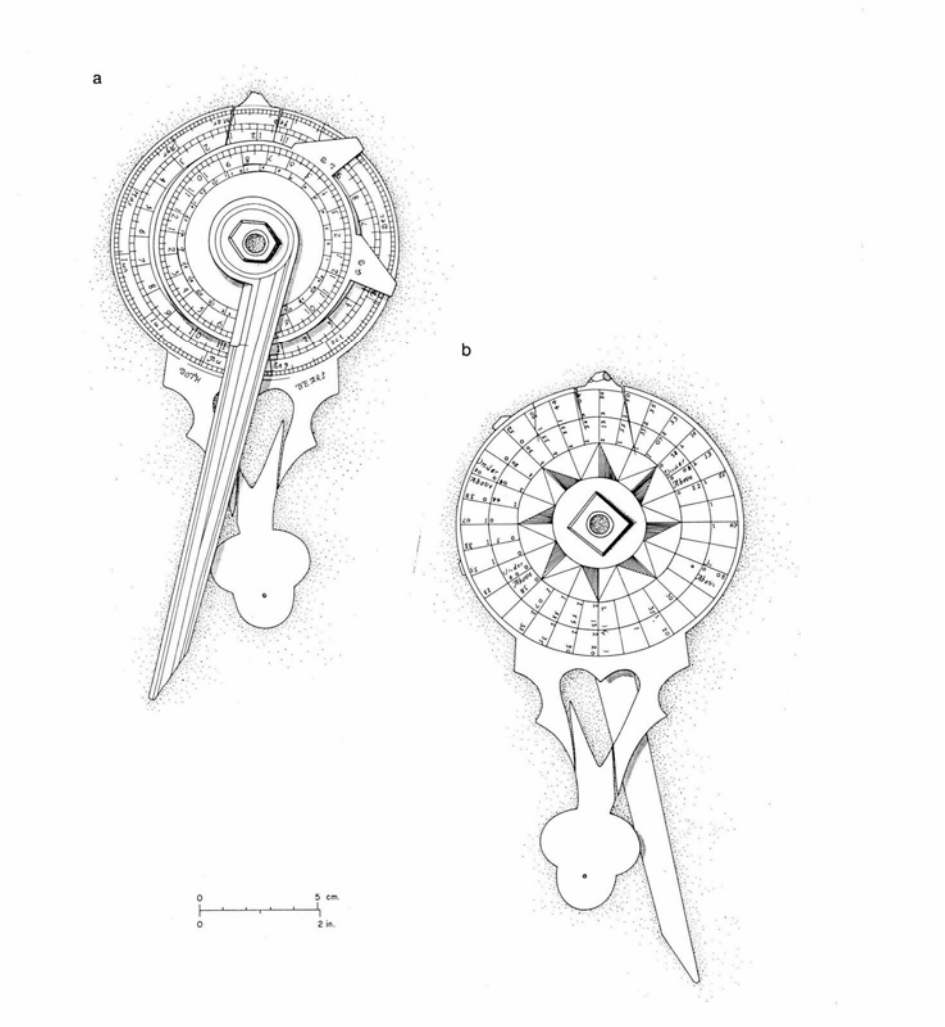


Figure 72: Wooden nocturnal 18M36P8-1. (Drawing by Dorothea Kappler, courtesy of Parks Canada)

Prior to the invention of the chronometer in the 18th century, navigators were trained in methods of determining the time at night using the positions of the stars in the night sky as they rotate around the pole. One traditional method used Ursa Minor as a “star clock” and the nocturnal was a tool that used the same principles to determine the position of the guard stars. The front of the main disc has a date scale (divided into 10 days and 2 days), on top of which is a rotating disc with an hour scale (numbered anti-clockwise 1-12), a lunar age scale and two shaped pointers, one marked GB (Great Bear) and the other LB (Little Bear) (Swanick 2005: 257; Cook and Swanick 2017: 344-348). A rotating pointer is fixed to the center of the disk. The reverse has a circular table for the Rule of the North Star which gives the bearings with the distance of the pole star above or below the true pole for both bears.

The *Saphire’s* instrument has the words BOTH BEARS inscribed at the top of the handle, indicating that it can be used with both Ursa Minor and Ursa Major, using the two teeth on the rotating circle (Figure 73). To use it to determine the hour by means of the pointers of the Great Bear, the user would bring the tooth marked GB to the day of the month on the outer circle, then hold the instrument as near as possible along the meridian, and tilt it to view the pole star through the hole in the centre, moving the index until it intersected the pointers of the Great Bear.

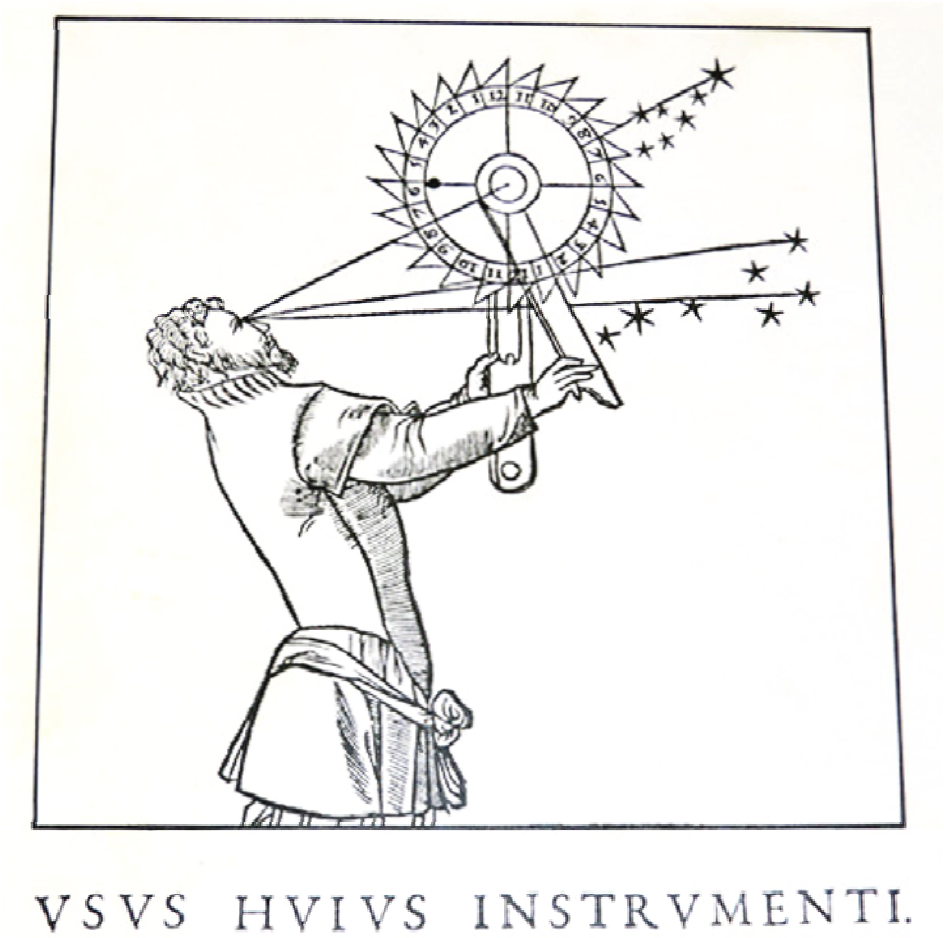


Figure 73: Method of reading the time at night using the nocturnal.
(After Marcello Felli, *L'orologio notturno* [Florence, 1586])

The three sets of brass navigational dividers found on the *Saphire* were used to plot the ship's course on a chart (Figure 74). One set has arms designed to be fitted with replaceable tips, and has a single curved wing with a scale that may correspond to leagues on a chart. The other two pairs of dividers are smaller and simpler in form.

Figure 74: Brass navigational dividers 18M 36N8-1, 18M36P1-1 and 18M48L16-1.
(Courtesy of Parks Canada)

Lead sounding weights were used in shallow water to determine the depth of the water and to establish the nature of the seabed while navigating in coastal areas. Knowing the makeup of the bottom (i.e., sand, mud, rock) could help a navigator to determine the location of the ship, particularly in areas of shoals as found for example in the Thames estuary. The lead line was heaved by a seamen standing in the chainwales on the side of the ship (Figure 75).

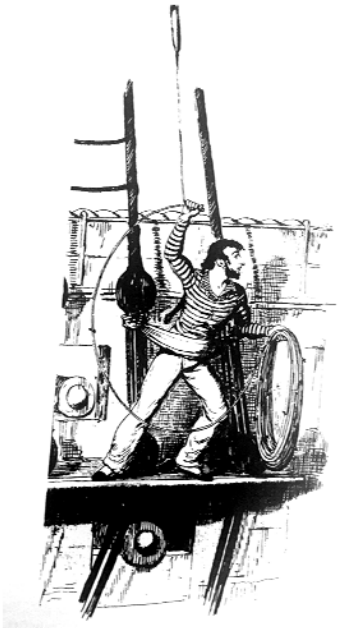


Figure 75: A seaman standing in the channels to cast the sounding lead.
(From Lavery 1981: 29)

Two kinds of sounding leads were used depending on the conditions (Lavery 1981: 27-29). An ordinary or hand lead weighed about 7 lbs, measured about 12 inches in length, and had a line about 20 fathoms long. A deep-sea line was heavier and had a longer line, weighing from 14 to 30 pounds and with a line up to 200 fathoms long. The sounding leads recovered from the *Saphire* are hand leads (Figure 76). Two weigh 7 pounds and one weighs 9 pounds, and they correspond closely to the avoirdupois English weight system (Ross 1983). They are conical and have a depression in the bottom that was filled with tallow to pick up sediment on the seabed.

Figure 76: Lead sounding weights of 9 pounds (18M4812-1) and
7 pounds (18M48M12-2 and 18M48L21-1). (Courtesy of Parks Canada)

Food Preparation

Shorter trips between established ports in European waters would have allowed for more frequent provisions and victualling, with a wide variety of fresh foods available. In the late 17th century, Samuel Pepys drafted new rules for the victualling of Royal Navy ships. Ships on duty south of Lisbon had to provide a diet of flour, rusks, raisins, currants, sweet olive oil, pickled suet, stock fish and rice, with a quart of wine, or half a pint of brandy instead of beer.

From the diary of Henry Teonge, it seems clear that, at least while on duty in the Mediterranean with numerous friendly ports in close proximity to

each other, the crews of English naval ships ate well. It is important to remember that, as chaplain, Teonge would have dined at the captain's table and thus received fare that was considerably more sophisticated than that of the average sailor. The wardroom officers pooled their money to purchase alcohol, fresh produce and other treats, and live animals such as pigs and chickens were carried on board to supplement the officers' table.

It is not surprising that Teonge was eager to sign up for a second voyage: "No life at shore being comparable to this at sea, where we have good meat, and good drinks, and good divertissements, without the least care and sorrow and trouble." Teonge takes considerable care to note the names of the wines and dishes he enjoys on board, sometimes going to pains to describe the arrangement of the dishes themselves on the table (Teonge 1825: 149). The more refined tablewares recovered from the *Saphire* would have been used in the wardroom.

Among the foods that Teonge samples are the following:

almonds	currants	marchpane[2]	plum pudding	sweetmeats
anchovies	Cyprus birds	melons	plums	tarts
apples	dates	mince pies	polony pudding[3]	tongues
apricots	ducks	musk melons	pome-citrons[4]	turbot
artichokes	eggs	mutton	pork	turkey
beans	figs	onions	potargo[5]	turnips

[2] Marzipan.
[3] A savory dish made with pork sausage.
[4] Grapefruit.
[5] A relish made from fish roe.

beef	gammons[6]	oranges	pudding	veal
biscuits	geese	oysters	pullets	venison pasty
bread	grapes	Parmesan cheese	radishes	watermelons
cabbages	herrings	peaches	raisins	woodcock
cauliflowers	jellies	pears	rice pudding	
chickens	lemons	peas	salad	
cod	lobster	pike	sausages	
cucumbers	mackerel	pistachios	strawberries	

For the sailors, the fare would have been much simpler, prepared in a large kettle or furnace abaft the foremast, where the cook was typically berthed. Both the *Mary Rose* and the *Vasa* had galleys with brick and tile lined stoves located low down in the ship. Examples of copper kettles have been recovered from the wrecks of the fleet lost on the Goodwin Sands.

The sailors would have had much plainer fare than in the wardroom, with less fresh produce and more salted meats. Boiled dishes of peas, potatoes, and shared large cuts of meat were an efficient means of feeding the large number of men in a warship's crew, while the steward would have been responsible for preparing more sophisticated dishes for the wardroom officers.

Archival records show that when the *Saphire* was first fitted out in July 1675, a large furnace was specified, but none being available, two large kettles were instead provided by Captain Beare, the Master Attendant at Woolwich (TNA ADM 106/315/196). A fragment of riveted copper alloy likely

6 Smoked hams.

represents a copper kettle or furnace used in the brick- and tile-lined galley to cook the large meals served to the crew (Figure 77).

Figure 77: Fragment of riveted sheet copper 18M48K13-1,
likely from a galley kettle or furnace. (Courtesy of Parks Canada)

Complete kettles made from riveted sheet copper have been recovered from a number of naval vessels, including from the Cromwellian shipwreck off the Island of Mull in Scotland, believed to be the pinnace *Swan* (Martin 1995: 41).

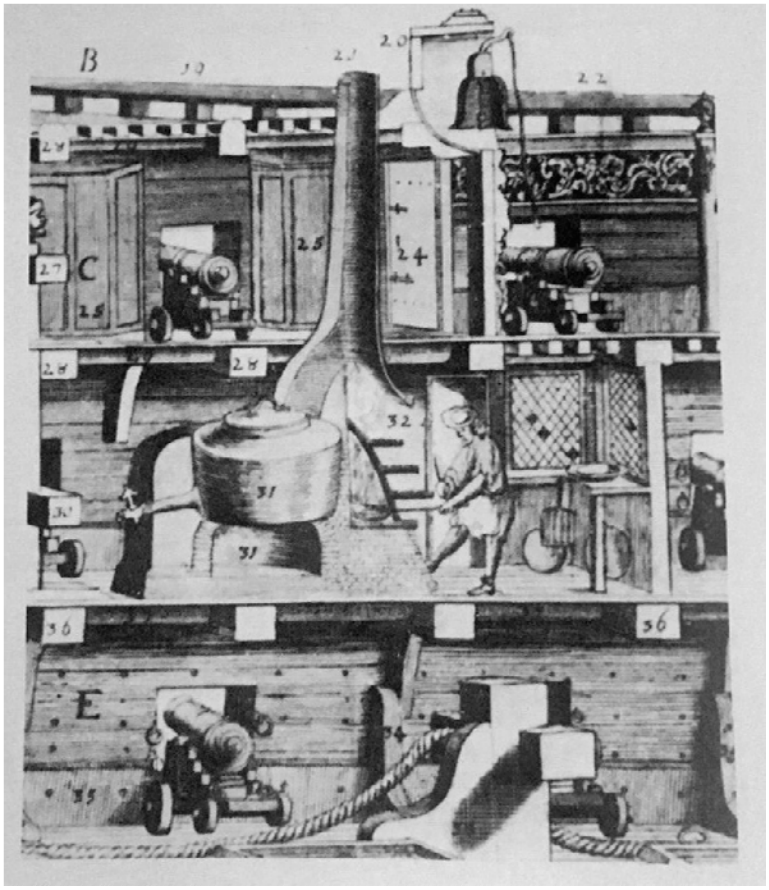


Figure 78: Detail of the ship's galley in a First Rate, positioned on the middle gun deck aft of the fore mast, showing the oven and furnace of copper (31) and the captain's cook room (32). Also note the belfry mounted on the forward bulkhead of the forecastle (20). (Detail from the Phillips drawing of 1690 in Lavery 1981: 173)

A globular pipkin with a pouring spout, made of coarse earthenware, may have been used by the steward to prepare elements of the officer's meals (Figure 79). A small cooking pot from Surrey may represent the equipment used to cook smaller, quantities of foods for the captain and the wardroom officers.

Figure 79: Globular coarse earthenware pipkin with pouring spout, 18M48H7-38. (Courtesy of Parks Canada)

A burnt, coarse earthenware fragment of a chafing dish, used to display and keep foods warm at the table, still has one of the original three knobs that were spaced around its rim (Figure 80).

Figure 80: Fragment of a burnt coarse earthenware chafing dish with one of its three knobs intact, 18M48J3-4. (Courtesy of Parks Canada.

Food and Beverage Service

Life on board ship would have been relatively basic, but perhaps no

more than experienced by similar social groups on shore. Material culture would have varied by class. While the officers enjoyed the perquisite of individual place settings, the crew continued to eat in a communal style using utilitarian wooden or horn dishes and utensils (see Deetz 1977). The officers would have eaten from individual plates and decorated ceramics in the wardroom.

The majority of the crew ate simple meals with simple implements in messes of six to eight men under a mess captain. A half hour was given for meals and crews were not unnecessarily disturbed during that time. A small staved wooden bucket or mess kit would have been used to collect food from the cook and would have served as a single shared serving container. Wooden tags were used to identify the portion of meat allocated to a particular mess. The men likely ate from wooden trenchers or plates such as those recovered from the *Stirling Castle*, using wooden or bone spoons, which were typically marked with the name of their owner and cut to fit inside a pocket. A letter from Commissioner Sir Richard Beach in Portsmouth on September 24, 1685, includes a demand from the officers for tin plates, probably for the use of the mariners (TNA ADM 106/374/327).

The officers who messed in the wardroom would have enjoyed more refined tableware than the crew, though what was found on the *Saphire* was more functional than elegant or ostentatious. A range of ceramic tableware recovered from the *Saphire* included North Devon sgraffitto, tin-glazed

earthenwares, and Portuguese redware bowls and plates.

On the other hand, concerns about ostentatiousness as a threat to the masculine identity of the naval officers may have affected the choice of material goods used on board ships. In a conversation of 1791, between a young officer and his father, who had also served in the navy, the following concerns were expressed:

> "…I see you have table cloths, silver spoons and forks. Is that the custom in the Navy now?" "Yes, Sir," [he replied]. "Well then, it's all over with the Navy. We are done for! When I was in it we ate our meals out of bowls and platters. Silver indeed!"
>
> (William Henry Dillon, *A Narrative of My Personal Adventures, 1790-1839*, [London, 1953], Vol. 1, p. 16 in Cavell 2010: 163)

Among the examples of decorated ceramics that may have been used by the officers, fragments of smooth-tempered coarse earthenware plates and platters from North Devon with sgraffito decoration were recovered (Figure 81). Some exhibited severe burning, suggesting they were damaged during the explosion.

Figure 81: Sherds of North Devon sgraffitto dish with pinched rim, 18M36N7-5.
(Courtesy of Parks Canada)

A sherd of North Midlands or Staffordshire slipware, possibly from a pitcher, is decorated with large dots (Figure 82). Staffordshire slipware is a thin, buff-coloured earthenware with a white slip and a clear lead glaze, which together produce a yellowish colour for the body. The typical decoration consists of a darker slip made with iron oxide or manganese, applied in a contrasting color in trailed, combed, marbled or dot designs.

Figure 82: Sherd of Staffordshire slipware ChAe-1:161, possibly a pitcher (Photo by the author)

Use and wear marks scratched into the glaze on a footed white-slipped coarse earthenware platter indicate that this was a well used piece (Myles 1985:35; Figure 83).

Figure 83: Coarse earthenware platter with white slip and interior lead glaze, with knife marks on the surface, 18M48S2-4. (Courtesy of Parks Canada.

A few sherds of tin-glazed earthenwares were recovered in poor

condition. Fragments from two plates (Figures 84 and 85), a small bowl (Figure 86), a bottle fragment and a possible jug fragment are the only eating and drinking vessels recovered. More expensive than coarse earthenwares, these might be remnants from the captain's or an officer's table.

Figure 84: Tin-glazed earthenware plate decorated with a bluish-white glaze, 18MK48K7-3. (Courtesy of Parks Canada)

Figure 85: Rim fragments of a decorated tin-glazed earthenware plate, 18M48L7-4. (Courtesy of Parks Canada)

Figure 86: Rim fragment of a small decorated tin-glazed bowl or porringer, 18M40M1-7. (Courtesy of Parks Canada)

Fragments of brown stoneware Bellarmine bottles were recovered from *Saphire* and a small complete one is in the NMAS collection (Figure 87). Bellarmine bottles are Rhenish and from either Frechen or Raeren and were used for serving beverages. Their sides sometimes had applied medallions or a bearded face. Several fragments of medallions and beards were recovered from the *Saphire*.

A Rhenish grey stoneware mug (Figure 88), likely from the Westerwald district, is only missing part of its handle. For drinking alcoholic beverages, they are often marked with numbers that corresponded to standard capacities. Although this one does not have a size mark, its capacity of 180 ml corresponds to the typical size mark of 10 (Myles 1996: 33). A similar salt-glazed stoneware flagon, likely from Frechen, was found on the Cromwellian wreck at Duart Point in Scotland (Martin 1995: 41).

Figure 87: Small stoneware bottle, ChAe-1-175. (Photo by the author)

Figure 88: Westerwald stoneware mug, 18M48P3-1.
(Courtesy of Parks Canada)

A pewter porringer or bleeding bowl was recovered in two pieces with its sides collapsed inward (Figure 89). It has two lobed handles and one is still attached perpendicular to the rim. A similar pewter porringer was recovered by NMAS. There are indistinct letters incised on the underside of the porringer base, seemingly the letters E .TACER, which are likely owner's marks (Myles 1996: 37). Porringer handles made lifting the vessel when filled with hot foods such as soups and stews, which were standard meals on ships. Similar porringers were also used by surgeons as bleeding bowls, often with marks on the inside surface to measure the amount of blood that was let (Gardiner 2005: 200-202).

Figure 89: Pewter porringer fragments, 18M36N1-1.
(Courtesy of Parks Canada)

Covered pewter measures, made in standard sizes, were used to serve liquor and sometimes for drinking (Figure 90). The handle of the pewter measure from the *Saphire* is narrow and curved in form with a square cross-section. One end is notched above a drop reinforcement, probably where it was attached to the lid. The small size suggests a half-gill measure (Myles 1996: 37).

Figure 90: Reconstruction of pewter measure, 18M48N1-4.
(Courtesy of Parks Canada)

A pewter beaker was cast in a one-piece mould (Figure 91). Pewter beakers were popular in the 17th century and continued in use until the mid 19th century. It is marked on the base with a maker's mark similar to the one on the spoon handle (Figure 92) that is described below.

Figure 91: Pewter beaker, 18M36P8-2. (Courtesy of Parks Canada)

Figure 92: Marks on the base of pewter beaker, which are similar to those on one of the pewter spoons. (Drawing by Dorothea Kappler; Courtesy of Parks Canada

Cutlery from the site included five pewter spoons, one knife handle and three handles for forks or knives. Spoons were the most common eating utensil of the time, forks were less widely used and likely would have belonged to the officers (Myles 1996:38). Personal knives were tools and were not only used when eating. Cut marks on bones from the site and use wear on some of the plates attest to the use of knives while eating.

Three wooden cutlery handles and one bone handle were recovered (Figure 93). The handles are one piece with a hole drilled to receive short round tangs, such as were found on knives or forks, although during this period, forks were rare.

Figure 93: Wood and bone cutlery handles, 18M8L16-1, 18M48L10-1, 18M48L4-2 and 18M38N12-1. (Courtesy of Parks Canada)

The five pewter spoons were all mould-cast (Figure 94). Their bowls are egg-shaped and the base of the stem extends into a short tongue, known as a rat-tail, that helped to support the bowl. One pewter spoon bears markings that suggest a French origin (18M44N1-1). The handle end of the spoon has raised letters VIVE _E_US (possibly “vive Jesus”) with a raised fleur-de-lis below the lettering (Myles 1996: 38). Its handle end is decorated with two cut notches forming a trifid. The style of two other spoons may also indicate French origins. They have wavy (or dog-nosed) ends, a style more common in France and, although not as common in England, they were

present there in the 1690s.

Figure 94: Pewter spoons 18M38N10-1, 18M48P13-1, 18M38P2-1, and18M44N1-1.
(Courtesy of Parks Canada)

One is marked with owner's marks “MH” (18M38P2-1) and the other bears the French system of marks. This mark is similar to the one on the beaker. The French system of marks consisted of two stamps, one identifying the quality of the metal, the place of origin and the date in which the maker was authorized as a master entitled to stamp his goods, and a second mark which identified the maker and the year of manufacture (Myles 1996: 38). The marks on this spoon and the beaker appear to be similar. The letter C at the centre of the stamp is a quality mark indicating common ware as opposed to fine wares which were marked with an F. The objects originated from MALO (likely St. Malo) and the pewterer began his practice in “169_” (Myles 1996: 38). His initial was “M” or “W”. Other French pewterers of this period were

known to have practices which spanned 30 to 40 years, so that a conservative date range for these two objects would be after 1690. Two additional pewter spoons were in poor condition.

Drinking

Henry Teonge makes several references to taking in fresh water for the ship. From his account, alcohol also flowed very freely on the ships of the Royal Navy. On Saturday evenings, it was the habit of the crew to drink punch or wine and to drink to the health of their wives, friends and the King. Despite all the fine wines he samples, Teonge considers English ale the “best of all”. The beverages he mentions while on board include:

ale	chocolate	Florence wine	racckee	Syracusa
beer	cider	lemonade	Rhenish wine	white wine
beverage wine	claret wine	Luke-sherry	Rubola wine	
brandy	coffee	Alicante	Sack	
Canary wine	Cyprus wine	punch	sherry	

Smoking

Judging from the number of pipes that were found, smoking was a popular pastime. Seamen were only allowed to smoke in fireproof areas of the ship such as the galley or in the head because of the danger of fire. Most of the clay tobacco pipes that were recovered originated in Britain and Holland (Richie 1978).

In October 1688, Captain Joseph Tosier wrote from Gibraltar asking

the Navy Board for direction on the issuance of tobacco (TNA ADM 196/384/370):

> I have observed in my instructions the articles which forbids charging of tobacco on the muster and pay books, although there is a column therein for the same, and am informed on the Dragon and other ships of this squadron's books it have been charged, and by a direction from your board I should be very glad to be a partaker in such an order for I presume the purser did not let the people want tobacco and truly I cannot comply with his address in charging the same on the books, unless you are pleased to approve thereof, which I humbly offer unto you in behalf of the poor man who may be at a great loss for want thereof.

The assemblage of pipes provide clues to the men working and living on board the *Saphire,* within the context of the global economy in which the ship operated. While large numbers of tobacco pipes are recovered from terrestrial sites, shipwrecks provide more precise social and economic contexts (Ward and Baram 2006: 143). Pipes were strongly subject to the influence of fashion and had a limited lifespan, and often can be used to explore social status. Tobacco pipes on ships may be cargo or personal possessions (Higgins 1997: 134-136). The range of pipes found on the *Saphire* reflect a diversity of personal preferences and a range of contacts and connections with sources of material goods (Figure 95).

Figure 95: Representative examples of pipes: 18M60N2-1, 18M38N1-2, 18M48N2-7, 18M48L18-4, 18M38N8-1 and 18M48M6-1. (Courtesy of Parks Canada)

Of particular interest were two moulded pipe bowls in the Ottoman style, also known as a çibuk or chibouk. (Figure 95). One of these pipes is currently missing. Pipe 18M38N8-1 is undecorated and has a flared chimney with a round bowl and a V-shaped keel on the underside, and a short shank ending in a rounded nozzle. Pipe 18M48M6-1 is also made of buff coloured clay, and has a small, rounded bowl, scored vertically, with a shank that ends in a stepped ring. Its form most closely resembles a pipe recovered from late 17th-century contexts at the Athenian Agora (Robinson 1985:194).

Two similar Ottoman-style pipes have been recovered from Ferryland in contexts associated with the burning of the settlement in 1696

(Heritage Newfoundland and Labrador n.d.; Barry Gaulton, pers. comm., 2009) and another near the Fort Louis palisade in Placentia occupied between 1690 and 1714 (Mills and Fry 2008:87). Perhaps most intriguing is a recent finding of a similar pipe in Labrador in 2014 from a late 18th-century Inuit communal winter house in south-central Labrador (Bohms 2015: 12). Similar pipes have been documented from late 18th-century shipwrecks in the Red Sea (Ward and Baram 2006) and Black Sea (Batchvarov 2014), however no standardized typology exists.

Tobacco was introduced into Egypt and Turkey in the early 17th century, and by the middle of the century, the fashion was widespread among men and women of all ages and social status and Burgas on the Black Sea was renowned for its pipe production by 1675, with other centres of production in Sofia, Varna and Istanbul (Robinson 1985: 151-152). The chibouk form may have its origins in West Africa, but by the mid 17th century, such pipes are found in Ottoman occupation layers at archaeological sites across North Africa and the Eastern Mediterranean. The Turkish version is called lüle and is comprised of a bowl made of metal, wood, stone or most often clay (Vincenz 2011:43), with a short stem, into which a reed or wooden tube was inserted in order to cool the smoke (Figures 96 and 97). A mouthpiece, often of semi precious stone such as amber or coral, else of wood or ceramic, was attached to the end of the reed. The bowls are typically made in two part mould and after being dried to leather hardness a slip was

added and the pipe could be decorated with carved, stamped, or roulette decorations. Decorations are typically geometric, floral or leaf-shaped (Vincenz 2011: 43).

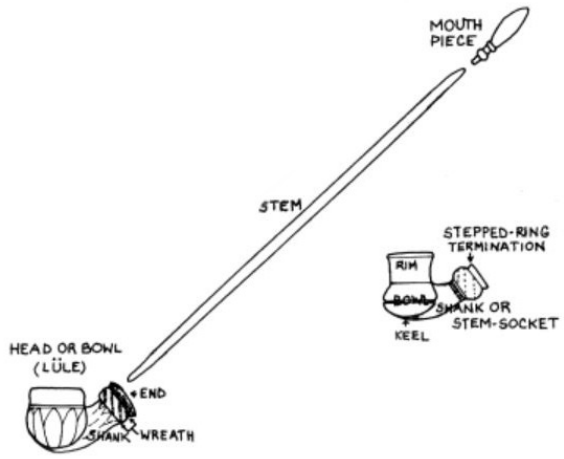


Figure 96: Anatomy of an Ottoman chibouk pipe. (After Robinson 1985: 154)

Figure 97: A Turkish capigi or porter smoking a chibouk, circa 1700.
(Charles F. Silvestre, *Differents habillements de Turcs* [Paris 1700], p. 13 in Robinson 1985: pl. 36)

The *Saphire* had spent considerable time in the Mediterranean and off

the coast of North Africa and the men could have purchased the pipes there. The pipe may have also belonged to a seaman of Moorish or Arabic origin, as such men seem to have been highly valued for their ability to translate on behalf of the English. When the *Saphire* was first manned in 1675 in Harwich, Silas Taylor wrote to the Navy Board that "Ally Amsouda (a Barbarian) hath been absent the 3 last musters, but had also leave (as I was informed) to go to London. He speaks Morisko and Arabick, and for that reason I believe that they desire him" (ADM 106/311/227). In his journal entry for October 12, 1677, Clowdisley Shovell noted the presence of a "Turk" as part of his crew, who was able to provide useful information on the commander, crew and armament of one of the Barbary ships (TNA ADM 51/857).

A preliminary view of the *Saphire'*s muster book dated October 1695 did not identify any officers or mariners with names that suggested an obvious connection to the Ottoman Empire. However, a careful study of the *Saphire*'s muster books and pay books would provide an interesting opportunity to further examine the makeup of the *Saphire*'s complement when it set out on its last voyage.

As noted by Barry Gaulton (pers. comm., 2019), composite pipes also had practical applications for mariners, as they could be easily stowed away when not in use and were more durable than English and Dutch ball clay pipes with long stems.

Clothing

Until 1748, there was no standardized uniform for officers of the Royal Navy, while the French had introduced one in the mid 17th century (Manwaring 1920: 105). Naval portraits suggest that officers were free to dress according to their own preferences and resources, with some preferring to dress lavishly and others less conspicuously.

Seventeenth-century mariners would have been easily recognized by their distinctive clothing, speech and gait. Sailors' clothing was generally loose fitting to allow for mobility, and might have included a hat, linen shirt, a thigh-length jacket or jerkin, loose breeches, woollen hose and shoes. Contemporary images of seamen at the time, such as on the title page of the Mariner's Mirror, show the typical dress (Figure 71). At this time, clothing and personal ornaments were among the few objects that seamen purchased for themselves, and thus they would have had greater value to the individual as an expression of identity.

While uniforms did not yet exist, the slop system was officially introduced in the Royal Navy around 1623, and provided greater uniformity in terms of sailor's dress (Dickens 1957: 3-4). The clothing provided as slops was made to specifications determined by the Navy Commissioners. The purser made the clothing available to the men on credit, with the value subtracted from their wages when the ship was paid off, but they were not required to buy them. Samuel Pepys felt that the seamen did not receive a

fair deal in the system “wherein the seaman is much abused by the purser.”

After the Restoration, the Stuart kings seem to have improved the slop system. In 1663, James, the Duke of York issued instructions regarding slops specifying that the slops should be limited to “cloaths worn by seamen – Monmouth caps, red caps, yarn stockings, Irish stockings, blue shirts, white shirts, cotton waistcoats, blue neckcloths, canvas suits and rugs, which are alone permitted to be sold” (Dickens 1957: 4). Charnock (1794) noted that around 1663 “sailors began first to wear distinctive dress. A rule was that only red caps, yarn and Irish stockings, blue shirts, white shirts, cotton waistcoasts, cotton drawers, neat leather flat-heeled shoes, blue neckcloths, canvas suits and rugs were to be sold to them. Red breeches were worn.”

Henry Teonge provides a description of what was known as St. Thomas’s fair, held on the quarterdeck, when the seaman purchased their slop clothing from the purser; the cost was deducted from their pay (Teonge 1825: 53, 210, 228, 232). Among the items sold were “caps, neckcloths, waistcoats, drawers, shirts, stockings, shoes, etc.” (Teonge 1825: 210). Teonge himself acquired a new cassock; purchased a new wig; and made buttons for some new clothes. When summer weather arrived, the seamen removed their coats and stockings.

Clothing related items recovered from the wreck of *Saphire* included scraps of textile, a mass of hair, fragments of footwear, a shoe buckle, a wooden shoe last, pewter buttons, wooden button moulds and a wooden

needle case. Most of the leather and textiles were excavated from the stern and midship trenches.

Textiles included plain woven hemp, silk, and knitted wool (Figure 98). Hemp could be sails or shot bags. Thirty-three pieces of textile were identified as plain woven hemp, twill woven hemp, plain woven silk and knitted wool. As well, an unidentified mass of hair which may be padding was recovered.

Figure 98: Examples of textiles and leather recovered from 18M. (Courtesy of Parks Canada)

The shoes recovered from the *Saphire* show the individual preferences of their owners. The most common footwear styles at the time were slip on shoes and ankle boots. Appropriate for either a left or right foot, these were called “straights”, and were constructed to fit either foot, whereas shoes constructed for the left and right foot were called “crooks” and were more expensive. Both latchet and vamps styles were recovered. From the mid 17th century through to the end of the 18th century, men's shoes had leather straps or thongs, called latchets, which overlapped and fastened with a

buckle to close the shoe (Figure 99). Vamp styles covered the upper part of the front of the foot.

Figure 99: Copper alloy shoe buckle 18M36N12-1. (Courtesy of Parks Canada)

Wearing shoes while in the rigging was considered dangerous, and the slip on style would have made it easier to remove them as required. Many sailors preferred not to wear shoes aboard ship, except perhaps during cold weather.

A wooden shoe last was a rare find (Figure 100). The hand construction of leather footwear requires a last, over which the shoe is moulded and stitched. The wooden last recovered from the wreck of *Saphire* has symmetrical sides, as most shoes in the 17th century were made to be worn on either the left or right foot. The shoe last suggests that a person skilled in shoe making or repair was aboard *Saphire*.

Figure 100: Wooden shoe last, 18M48N4-1. (Courtesy of Parks Canada)

A wooden awl handle (18M48L12-2), possibly used in leather shoe repairs, was also recovered. Awls, or prickers, were also used in the repair of the sails.

At least four metal buttons and five wooden button moulds were recovered. Three of the metal buttons are pewter (Figure 101). The body and the shank of these buttons were cast in one piece. The face is dome shaped with a decorative motif, while the shank is a solid loop. One flat undecorated disc of copper is also believed to be a button based on remains of the shank, which was once a wire loop soldered to the centre back.

Figure 101: Pewter buttons with decorated dome shape, 18M48N6-1 and 18M48N8-3. (Courtesy of Parks Canada)

Five wooden button moulds were also found. The moulds were hemispherically shaped and have a single hole in the centre. Button moulds were generally covered with fabric, thread, or thin metal sheeting and often had a wire loop shank fixed to the back (Bradley et al. 2003: 161).

A needle case was turned in the shape of a tiny gun or cannon (Figure 102). One end unscrews to form a lid.

Figure 102: Turned wooden needle case in the shape of a cannon.
(Courtesy of Parks Canada)

Leisure

As Deetz (1977: 4) would remind us, the everyday life of the ordinary sailor is to be found in the small things forgotten, those material objects of the past that are so easily overlooked, but that nonetheless have value. Crews had few personal possessions and few ways to enjoy themselves in minimal space and time. Although able to afford a few more luxuries, the officers' leisure activities and time were also restricted.

Life on board a small frigate would have been cramped with little escape or privacy. However, the men found various means to alleviate the boredom of naval duty. This might include sleep and rest, storytelling, games such as draughts (checkers), making handicrafts such as rope work or carvings.

When time was available the crew and officers might enjoy pipe-smoking, gaming or singing and dancing, although there can be little archaeological evidence for the latter. Other activities which would also take place in non-working hours included writing, sewing and mending, and reading. Even drinking could be considered as a leisure activity.

Sailors are known to have spent some of their leisure time at sea gambling. A flat lead or lead alloy square with an “X” scratched on one side, a gaming piece appropriate for playing chess or draughts (Figure 103), is the only artefact related to game-playing.

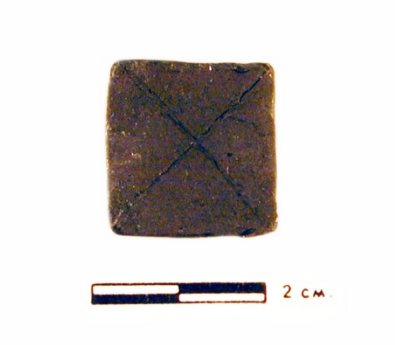


Figure 103: Gaming piece 18M38N4-1. (Courtesy of Parks Canada)

Henry Teonge mentions playing his viol in the great cabin (Teonge 1825: 208). His manuscript includes several songs and long epic poems no doubt composed to relieve the boredom of life at sea.

According to Teonge, sailors were always eager to receive “prattick”, or permission to go on shore while in harbor in order to stretch their legs and enjoy the local amenities (Teonge 1825: 41, 57). This privilege might be denied for a variety of reasons, including the “plague” (Teonge 1825: 122).

One particularly interesting incident describes a staged scuffle between the boats of two English ships:

> …our noble Duke of Grafton…begins his warlike exploits; Sir John Ernle’s barge and longboat [challenges] our barge, in the nature of Algerines… the fight began very furiously; several broadsides passed, with muskets, blunderbusses, and peteraroes, and squibs and crackers, like hand-grenades: this continues at least an hour. Then at last (as it was ordered before) Sir John Ernle’s squadron is worsted, his longboat driven on shore, where they forsake their vessels, but maintain them a good while by their small-shot from behind the rocks. At last the Duke takes the boats with his artillery and fire-balls, and so the fight ends (very pleasant to behold). And they all go… to dinner in the *Bristol*… (Teonge 1825: 240)

Crews on board ship often carried fishing equipment and passed leisure time in fishing, which had the additional benefit of supplementing their diets with fresh fish. Given the high consumption of salted meats, fresh fish would have provided a welcome break. This practice is confirmed by some of the remains found as part of the assemblage. In March 1696, prior to departing for Newfoundland, Captain Cleasby made a special request to the

Navy Board for “some fishing trade for the ship’s company” (NMM ADM/A/1828/184). The fishing line weights and rolled lead net weights may have been provided by the Navy Board in response to this request.

Four cast-lead fishing line weights are roughly tear-drop shaped (Figure 104). The six lead net weights recovered could have been part of a series of weights attached around the footline of a small mesh gill net (Figure 105). They consist of various small flat pieces of strapping rolled to form a hollow cylinder. Five squid jigs were also recovered. Some are circular in cross section and taper to a small base end. The base is flattened with one or two small holes for a line attachment. The channels in the sides are for hooks. The original ferrous metal hooks have rusted away leaving only the lead portion of the jig.

Figure 104: Lead fishing line weights, 18M36M7-1, 19M48L9-2, 18M38N3-2 and 18M38M18-6. (Courtesy of Parks Canada)

Figure 105: Rolled lead fishing net weights, 18M36M4-4, 18M48L15-1, 18M36N7-3 and 19M48M3-5. (Courtesy of Parks Canada)

Reading and Writing

A small, box-shaped ink well (18M48L5-1) made of lead alloy (95% lead, 5% tin) could have held a small round glass or ceramic insert that served as a reservoir for the ink (Figure 106). The inkwell is a hollow box shape, with no decoration and a circular hole on the top face. Its heavy weight would help to stabilize it on board a ship. Writing, with straight quills, would have been done mostly by clerks, captains and officers, who were involved in navigational calculations, log keeping as well as leisure activities like letter or diary writing. A similar lead ink well was recovered from the 1707 wreck of the *Association* in the Isles of Scilly (Larn 1995: 55) and at least two were found on the 1711 wreck of the *Feversham* in Nova Scotia (Reedy 1998: 17). Interestingly, one of the examples from the *Feversham* contained a wad of unidentified animal hair, possibly to help keep the ink from spilling.

Figure 106: Lead ink well 18M48L5-1. (Photo by the author)

Lighting

Due to the risk of fire, lighting on ships was subject to strictly enforced rules that prescribed who had access to lighting supplies, where lights were allowed, and who could use them (Quinn 1999: 47). In the Royal Navy, the boatswain was responsible for providing the men with lanterns, and the purser issued candles. In 1677, John Wilkinson, purser on the *Saphire*, requested that 60 dozen candles be sent “free of customs duty” to Tangier to supply the ship (TNA ADM 106/324/55).

The master-at-arms was responsible for ensuring that all lights were extinguished at night, and the decks were patrolled at regular intervals throughout the night watch to check for any illicit lights (Lavery 1987: 185; Quinn 1999: 49-50).

While candles in lanterns were used throughout the ship, for example to light the messes, unprotected candles in holders were only allowed to be used by the officers (Quinn 1999: 64). Thus it is likely not coincidental that the only candleholder on the *Saphire* was recovered from the stern area of the wreck. Figures 107 and 108 show a copper alloy handle from a frying-pan style socket candleholder. It is similar to the handle of a complete candlestick from the French naval vessel *Machault*, lost in 1760 (Sullivan 1986: 93). A brass candle holder is also reported for the *Dartmouth* (Adnams 1974: 271).

Figure 107: Fragment of a copper alloy candleholder, 18M42N2-5. (Courtesy of Parks Canada)

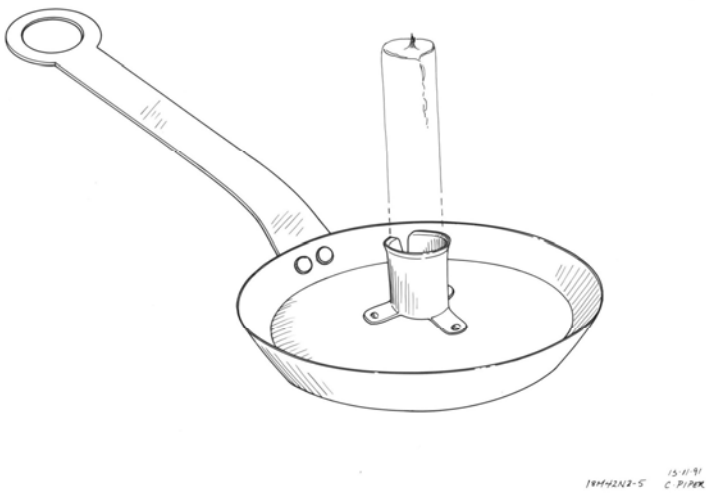


Figure 108: Reconstruction of candleholder, 18M42N2-5.
(Drawing by Carol Piper, courtesy of Parks Canada)

Figure 109 shows Portuguese redware dish lamp fragments, with blackening on the rim of the slanted wick channel. This type of saucer lamp burned oil, such as whale or olive oil. Because they were easy to manufacture and provided a bright and efficient source of light, these are the most common types of lamps found on shipwrecks from the Bronze Age up until the Medieval period, when candles gradually became more prevalent (Quinn 1999:17-18). Its shape is bowl-like with a round bottom and low sides whose rim forms several open beaks, each intended to receive a wick. The paste is a coarse red, strongly micaceous clay, common of Portuguese redwares. The object was made on the wheel, then its rim was folded up and the beaks were shaped with the fingers.

Figure 109: Fragments of Portuguese redware oil lamps, 18M38M23-1.
(Drawing by Dorothea Kappler, courtesy of Parks Canada)

From a modern vantage, it is somewhat surprising to find this type of simple oil lamp on a 17th-century Royal Navy ship, since candles and lanterns were supplied at this time. However, such lamps remained common and there is some evidence that ship's surgeons preferred to use oil lamps for as late as the 19th century, as they provided a brighter, steadier light than candles or lanterns (Quinn 1999: 110). The location of the oil lamp found on the *Saphire* is consistent with the typical location of the surgeon's cabin at the stern of the vessel. Whale oil lamps may have been preferred for use in the binnacle by the navigator for the same reason (Quinn 1999: 111).

Five similar oil lamps were found on the wreck of the *Elizabeth and Mary*, lost in the St. Lawrence River in 1690 (Bradley et al. 2003: 168-169). Each is made from a square of sheet metal with its edges folded up to create

four spouts for wicks, and most have lugs to allow them to be suspended. Four were made of sheet lead in various stages of manufacture. The fifth was made of sheet brass, likely recycled from a kettle.

Health and Hygiene

With cramped spatial arrangements, a damp bilge, wet sails, rotting stores and 135 unbathed men, a 17th-century frigate was a smelly place. Waste and filth accumulated in the bilges and could become a health hazard, sometimes producing noxious gases. However, the smell of the bilge was also considered a testament to the soundness of a ship's hull:

> When a ship is staunch, that is takes in but little water into her hold, she is said to be tight. And this tightness is best known by the very smell of the water that is pumped out of her; for when it stinketh much, it is a sign that the water hath lain long in the hold of the ship, and on the contrary, when it is clear and sweet, it is a token that it comes freshly from the sea. This stinking water therefore is always a welcome perfume to an old sea; and he that stops his nose at it is laughed at, and held but a fresh-water man at best. (Boteler 1634: 239)

While larger warships had sanitary facilities build into the stern quarter galleries for the officers, the *Saphire* was too small for such luxuries. Two fragments of an English delftware chamberpot and a complete Westerwald stoneware chamberpot (Figure 110) recovered from the wreck likely belonged to the officers, who could have enjoyed their use in the relative privacy of their cabins.

Figure 110: Westerwald chamberpot, ChAe-1:178. (Photo by the author)

The sailors used seats of ease installed in the beakhead as well as pisdales installed in the waist of the ship. The records for the outfitting of the *Saphire* in July 1675 include the installation of two pisdales (TNA ADM 106/315/312, Appendix D). These were urinal-like fixtures installed in the bulwarks , which allowed the waste to drain outside the hull rather than onto the decks. They typically were semi-circular bowls of lead or copper, with a small drainage pipe that passed through the side of the ship (Figure 111). The smallest of the lead pipes recovered from Bay Bulls (19M16S1-1) is likely a pisdale drain, and not a scupper liner as previously identified.

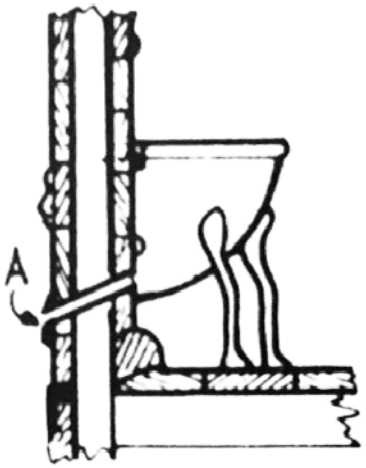


Figure 111: The installation of a pisdale in the waist of a ship, with the lead drainage pipe indicated (A). (Goodwin 1987: 216)

Medicine

Drug jars, ointment pots, bleeding bowls, mortars and pestles, small bottles and vials, and surgical instruments would have been part of the surgeon's equipment. Drug and apothecary jars and various pots and bottles for storing medicines are frequent finds on naval wrecks, and the similarity between assemblages considered to be related to the surgeon's stores is not surprising given the role of the Company in regulating the types of supplies carried.

A number of the artifacts recovered from the *Saphire* may be related to the surgeon's assemblage of practice. These include intact and fragmentary delftware drug jars or gallipots decorated in blue and purple. There are at least two forms – one with a splayed or footed base (Figure 112), and the

other with a cylindrical base (Figure 113). They were used to hold ingredients for medicinal mixtures and medicines such as dried herbs, ointments, powders and syrups (Wilkinson 1969: 138).

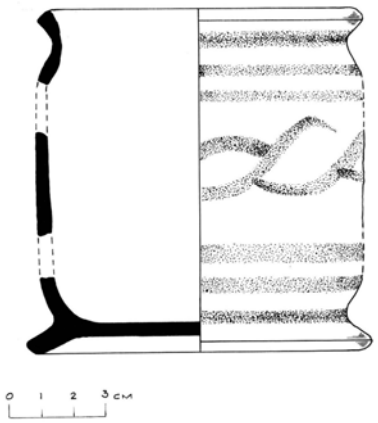


Figure 112: English delftware drug jar 18M48J2-6. (Drawing by J. Métivier, courtesy of Parks Canada)

Figure 113: English delftware drug jar ChAe-1:250. (Photo by the author)

Potteries producing tin-glazed earthenwares were established in Southwark and Lambeth in London by the mid 17th century, and their production was greatly influenced by the Dutch origins of the potters, making it difficult to distinguish between Dutch and English during the earliest periods of manufacture (Wilkinson 1969: 5). By the end of the 17th century, English delftware had developed into a distinctive style, and manufacture of drug jars in Lambeth continued until the mid 19th century (Black 2001: 6). Blue paint, from cobalt, was the most frequent, and the purple seen on the *Saphire*'s pots is made from manganese. This blue and purple combination is very common for drug jars from Lambeth. The freehand decoration may have been done with the assistance of a turntable. They have an everted rim that would allow a piece of parchment or leather to be tied over the top as a lid. Unlike later jars, they are unlabelled. The form and decoration of these jars closely resemble a dry drug jar in the collection of the Museum of the Royal Pharmaceutical Society in London, which is attributed a date of manufacture of 1570-1700 in London (Hudson 2006: 81).

Other small undecorated delftware ointment pots are English in origin. A larger medicine container called an *albarello* was made of green-glazed coarse earthenware (Figure 114).

Figure 114: English green-glazed coarse earthenware albarello, 18M36N4-1.
(Courtesy of Parks Canada)

About half a dozen coarse unglazed stoneware bottles and pots from Normandy with constricted or open mouths were also recovered (Figure 115). These could have had medicinal uses or held blacking or ink. One was found with its cork stopper still in place. A similar pot recovered from *La Dauphine* of 1674 was found as part of the apothecary assemblage. Small bottles from 18th-century French shipwrecks have been interpreted as containers for various pharmaceutical products (Dagneau 2009: 64, 124).

Figure 115: Small Normandy-style bottle, possibly part of the surgeon's chest, ChAe1-1. (Photo by the author)

A slender glass medicine vial was unearthed intact from the Parks Canada excavation (Figure 116). Other common bottle types of bottles that are frequently associated with the surgeon's stores on naval wrecks include small stoneware Bellarmine bottles and green glass case bottles. Case bottles were also recommended to surgeon's for use in the sea service, since their shape made them easier to pack.

Figure 116: Slender glass vial, 18M48J6-1. (Courtesy of Parks Canada)

Two pewter syringes or clysters were found during the NMAS excavation. “Clyster” was the Old English term for syringe or the medicine put in it (Clyster 1996: 44). In the 17th century large pewter and silver syringes were used to administer enemas, not intravenous injections. They were part of the surgeon’s equipment.

A clear glass object previously identified as an oil lamp base is more likely a cupping glass that would have been packed in the surgeon’s chest (Figure 117). A similar cupping glass was recovered from a 1609 context in Jamestown, Virginia (Jamestown Rediscovery, n.d.). Cupping glasses often came in sets, and several other glass fragments appear to have the same form. In John Woodall’s 1617 treatise *The Surgion’s Mate*, he lists the due

contents of a surgeon's chest, and notes that cupping glasses could be used to treat "bubo or botch… nodell, to draw back humours…. To draw blood and spirits to a member withering or benumbed." It could be used for dry cupping or wet cupping (bloodletting), in which the heated glass was placed over an incision. As the air inside the glass cooled, it would create a vacuum and draw out the blood.

Figure 117: Possible glass cupping jar ChAe-1:3. (Photo by the author)

CHAPTER 8: CONCLUSIONS

> We need to learn to see the world's seas and oceans as real places, where a great deal of history has been made, and indeed is still being made.
>
> Marcus Rediker (2004: 198)

Oceanic History vs. Atlantic History

In order to understand a warship, the construction, fitting, provisioning, manning, performance, and career of the vessel must be considered in an integrated way. The field of maritime history that emerged in the 18th century and that dominated much of the 19th and 20th centuries was primarily concerned with naval technology, famous battles, and the careers of powerful naval officers. The approach of oceanic history is a reaction to such elitist and conservative approaches and is primarily concerned with social history (Bentley 1999; Mancke 1999, 2004; Klein and MacKenthun 2004; Wiger 2006; Polónia, Ribeiro and Lange 2017). It represents an attempt to humanize maritime history by examining such problems as race, class, gender, and personal agency. Oceanic history is self-consciously interdisciplinary, drawing on such fields as anthropology, archaeology, geography, history, and literary criticism.

By examining trans-oceanic networks, scholars of the Atlantic world have transcended nationalistic approaches to historical research and have revealed the complex, polycentric relationships that shaped the modern world. However, even among scholars of the Atlantic world, the ocean is often

viewed as an obstacle to movements of people, commodities, and ideas. The sea is commonly perceived as an empty space between the continental shores where important things happen, instead of as a legitimate social space in its own right. Klein and MacKenthun (2004: 13) compare the ocean to the desert, arguing that it "has often been read as an empty space, a cultural and historical void, constantly traversed, circumnavigated and fought over, but rarely inscribed other than symbolically by the self-proclaimed agents of civilization." The study of the Atlantic world should be refocused to put oceanic events at the center, rather than at the margins.

While not a replacement for other approaches, an ocean-centered view of the Atlantic world provides an alternate framework for understanding historical events and social processes. In particular, marine archaeology has the potential to provide new insights into broad social processes such as the expansion of trade networks and the impacts of mercantilism and imperialism in the early modern period. The material culture found on shipwrecks reflects larger patterns of trade and commerce, and provide unique insights into global migrations of people and movements of goods. Further, analysis of shipwreck assemblages can help to address questions related to the interaction of naval and civilian populations and the internal social organization of shipboard life.

Elizabeth Mancke (1999) sees oceans as international politicized spaces that were integral to early modern European expansion between 1450

and 1800. In many ways, European imperialism and global dominance were oceanic in nature, and Mancke argues that seaborne power was more important that terrestrial dominance in the establishment of early European empires. The high seas were not controlled by a single state, yet they were highly militarized, and command over oceanic space was key to European imperialism (Mancke 1999: 225). Indeed, the power to control the seas remains critical to continued economic and political dominance in the modern world.

The *Saphire* as Agent of Imperialism

The first scale of analysis examined the growing role of the Royal Navy as an agent of colonial and imperial power in the late 17th-century Atlantic world, with a focus on the reciprocal relationship between the growth of the convoy system and the expansion of mercantilism. The Royal Navy was a policy instrument developed to support England's trading activities, and was systematically and effectively deployed to protect mercantile networks. In essence, warfare at sea is a struggle over control of maritime lines of communication (Glete 2000: 1). These were important for trade, for establishing control over overseas territories and, in the context of privateering and piracy, for extracting resources by violence and protecting commercial goods from attack.

The late 17th century was a time of nationalistic competition between growing merchant interests in the Atlantic world. The contemporaneous

growth of the escort capacity of the Royal Navy was both a product of and an agent for mercantile and imperial expansion. The English navy was arguably the most powerful military organization in the 17th-century Atlantic world, and naval officers enjoyed unparalleled political and symbolic authority.

The *Saphire* was part of a newly formed naval convoy system designed to combat privateers and to protect ships carrying valuable cargoes of fish, wine, and other commodities in a multi-lateral Atlantic trading network that tied Newfoundland to England, the Iberian Peninsula, and other Atlantic ports. In the 17th century, the Royal Navy maintained three primary convoy routes: the Mediterranean, the Levant, and Newfoundland. Although peripheral to the primary centers of North American colonization, Newfoundland played crucial roles in the extraction of wealth and the movement of goods and people. The presence of naval forces in Newfoundland was important in ensuring secure access to the profitable fishing banks for the English fishing fleets. This level of analysis considered the relationship of shipboard societies to civilian populations. Research employed archaeological and archival materials in order to better understand the multifaceted role of naval personnel in exerting imperial control over the island.

The Success of the Frigate in the Royal Navy

Frigates were well designed to meet the objectives of the late 17th-century Royal Navy, as they were small, fast and could be built more

cost efficiently than the ships of the line. They were able to stay at sea for long periods, which was essential to their success in the defense of trading routes and of the settlements in North America. More than anything, England needed large numbers of ships, which resulted in a strategy of using the smallest size of each rating possible to keep costs as low as possible.

It is significant that during the period from 1675 to 1689, when many of the larger First, Second and Third Rates of the navy were left to rot in ordinary (as lamented by Pepys), frigates such as the *Saphire* were in a constant state of deployment, with scarcely enough time to return to England for periodic refitting. Some of these commissions stretched for several years before the ship returned home.

Material Culture

In the early years of the advent of globalization, ships and sailors transported ideas, knowledge, and goods around the world, and brought them back home and to the colonies. Ships, cargoes, and the personal possessions of the crew were material expressions of culture. There have been increasing efforts to better integrate terrestrial and marine archaeological studies to better engage with material culture in order to interpret social relations and behavior. Shipwrecks lost while engaged with coastal communities present special opportunities to address questions related to the movement and distribution of goods, as well as the lives of those who used and traded them.

It is now commonplace for historical archaeologists to study material culture as an indicator of identity and status. Naval personnel also were part of an ideological network with a set of emotional and mental connections that fostered an imperial identity that was accepted and resisted among its members to varying degrees. By promoting an imperial identity, the navy was an institutional force that consolidated English imperialism. The captain of a naval ship was no less sensitive to the statements of power and refinement that could be made through material possessions than was a colonial planter.

The *Saphire* was refitted in Portsmouth, and left from Ireland for its crossing to Newfoundland in 1696. The artifact assemblage reflects the complicated system of trade between European countries, and between England and the New World via triangular trading routes. The diversity of the material culture recovered from the *Saphire* reflects the complex trade and naval operations undertaken by the English not only in Newfoundland, but also with France, Holland, Germany, Spain and North Africa. That the material culture found on the *Saphire,* like other naval wrecks of the era, represents such a wide variety of geographic origins speaks to the complex system of trade already in place by the late 17th century. Like the settlers on shore, the men of the *Saphire* had access to Iberian redwares, Rhenish salt glaze stoneware and Ottoman pipes.

Charles Dagneau (2008) proposes that by the 18th century, shipwreck assemblages exhibit a standardization of European material culture that

represents growing economic globalization. A recent study by Virginia Dellino-Musgrave (2005, 2006) proposes that material culture found on British naval vessels was selected to portray a British identity that shortened the emotional distance between the seafarer and his home. Given the diversity of ceramic ware types and other material culture recovered from *Saphire*, a plausible alternative explanation is that foreign objects and commodities were intentionally selected for onboard display to express the influence of the Royal Navy over widening trade networks. Arguably, due to their varied geographic deployments, naval personnel, perhaps even more than other mariners, had access to an unprecedented array of foreign consumer goods that could be manipulated for social purposes.

The *Saphire'*s assemblage provides an opportunity not only to understand the types of goods used on a 17th-century warship, but also an opportunity to learn about the lives of the officers and crew who lived and worked on the vessel. Material culture is both functional and symbolic – many objects have both an objectively observable practical purpose, as well as more subtle social, cultural, or personal significance. To varying degrees, objects can express meanings, communicate messages, and mediate relationships between people in complex ways that go beyond the basic needs of survival. Archaeologists must constantly ask themselves why particular individuals or groups choose to make, obtain, and use certain

specific items of material culture, and what values these objects had to those who used or observed them.

Interpretive Value of an Existing Collection

This research has contributed to understanding of 17th-century naval lifeways while making use of an underutilized museum collection. Given the non-renewable nature of archaeological resources and the high cost of archaeological excavation and artifact conservation (particularly in the case of underwater archaeological sites), a practical and ethical argument can be made for thoroughly exploiting the research potential of the countless existing archaeological assemblages held in museums and repositories worldwide before undertaking new research. This research has helped to improve our understanding of a collection that is of interest to the people of Newfoundland and specifically to the community of Bay Bulls, and it is hoped that the project will support improved interpretation of the significance of the site for the public.

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APPENDIX A: NOTES ON STYLE

As is typical of historical documents, the 17th-century naval records and printed works consulted in this research reveal a range of non-standardized spelling variations and irregularities in style and format. I have followed the example of naval historian N.A.M. Rodger (1986: 14) in using modern spelling, punctuation and capitalization for transcriptions of 17th-century archival records. As Rodger notes, there are few substantive differences between early modern English and that of our own times, and overuse of the original form can be overly quaint and distracting to the reader. I have made an exception for proper nouns (i.e., persons, ships, and geographic locations) where I have no expedient means to determine the preferred contemporary spelling; in such cases I have maintained the original spelling in the source. Contractions and ampersands are expanded and capitalization has been modernized. Otherwise, the original choice of language and syntax are respected.

In the 17th century, it was common convention to use the definite article before the name of a naval ship (the *Saphire*). The phrase “his Majesty’s ship” written out in full was used frequently (or “their Majesties’ ship” during the joint reign of William III and Mary II from 1689-1695). The abbreviation H.M.S. (His/Her Majesty’s Ship) was not in use in the late 17th century (Fox 1980: 9), although the contraction “his Maj’ys ship” is common in naval records and “H.M.’s ship” appears occasionally.

Alternative spellings of *Saphire* found in contemporary archival records and printed sources include *Safir, Safire*, *Saphier* (the spelling used by the ship’s builder, Sir Anthony Deane)*, Saphir, Sapphire, Seafar, Zephir,* and *Zephyr.* The spelling that appears most often in contemporary documents is *Saphire*, and this spelling has also been used in a number of previous studies of the shipwreck and the associated artifacts. For these reasons, this dissertation favours the spelling *Saphire*, except in direct quotations of printed sources.

Two competing calendars were in use in the late 17th century. The Julian or Old Style calendar was used exclusively in England and Ireland, while Scotland and continental Europe used the Gregorian or New Style calendar. Dates in the Old Style fall ten days behind the New Style. In addition, in the Old Style, the year began on 25 March (Lady Day), while in the New Style it began on 1 January. Many contemporary naval documents are double dated between 1 January and 25 March (e.g., 1 January 1675/6). Dates in this study follow the Old Style calendar, but with the new year beginning on January 1 instead of March 25. Dates published in secondary sources are provided as printed.

APPENDIX B: GLOSSARY

Albarello: A cylindrical drug or ointment jar, often manufacture of coarse earthenware.

Amidships: In the central part of the ship.

Ballast: Weight, typically stones, gravel or pig iron, carried in the bottom of a ship's hold to provide stability.

Bark: A small three-masted vessel, typically without a mizzen topsail.

Beakhead: A short, unprotected deck located between the ship's stem and the bulkhead in the forward end of the forecastle, where the crew's latrine was located.

Beam: The side to side dimension of a vessel, typically its maximum width at deck level.

Belfry: A canopy sheltering a ship's bell, usually located at the aft break of the forecastle by the late 17th century.

Bilge: The inner bottom of the ship where the frames are more horizontal than vertical.

Bower: The largest anchor carried on a ship.

Bowsprit: A spar projecting forward of a ship's stem on which can be mounted sails.

Bream: To burn off weeds and other marine growth from the bottom of a ship during careening.

Broadside: The combined weight of the shot that could be fired from one side of a warship, essentially half the total firepower of the ship.

Bulkhead: A vertical partition running across a ship to divide it into sections or compartments.

Captain: In the 17th century, the term captain was used for commanding officers of both rated and unrated vessels who had achieved the substantive rank of captain. Later, the title was used only formally for commanding officers of rated vessels. Lieutenants in command of an unrated vessels were informally called captain despite not holding the rank.

Cantil: A globular costrel of Iberian origin.

Careen: To lighten a ship and heave it over so that one side is exposed for cleaning and repair, usually undertaken on a sandy beach.

Caulk: To stop up the seams of the hull planking.

Ceiling: The internal planking used to line the ship's hold, usually laid forward and aft across the frames running.

Chainwales: Wide planks projecting from a vessel's sides to which the chains and shrouds were fastened.

Commander: The commanding officer of a warship, typically with the rank of captain. Also used to refer to the senior officer commanding a fleet of warships.

Convoy: A warship employed to escort a merchant fleet, or the act of escorting.

Costrel: a round flask or container for liquids with loops through which a belt or cord may be passed for easy carrying, typically made from earthenware but also from wooden staves or leather.

Crossjack Yard: The lower square-rigged yard on a mizzen mast, used to spread the clews, or lower corners, of the mizzen topsail.

Cruiser: A warship sent on detached operations, alone or in company with several others.

Crutch: A V-shaped frame in the aft section of a ship, where the hull narrows towards the stern and the rudder.

Demi-culverin: A muzzle-loading, smooth bore gun originally projecting a short of 9 ½ pounds, later of 9 pounds weight.

Draft: The depth of water displaced by a ship.

Dunnage: Brushwood or other materials used to stabilize and protect cargo.

Falcon: A muzzle-loading, smooth bore gun firing shot of 2½ pounds.

Falconet: A small muzzle-loading gun firing shot of 1¼ pounds.

Fireship: A small warship intended to be fitted with combustibles in order to destroy enemy ships by setting her on fire and then running toward the enemy ship with the intention of becoming entangled in its rigging. In practice, fireship were often used as small cruisers.

Forecastle: A partial raised deck above the weather deck at the bow of a vessel.

Floor Timber: A frame timber that crosses the keel and that typically spans the bottom of a vessel.

Frame: A transverse timber or group of timbers that creates the internal skeleton of a vessel and to which the hull planking and ceiling are fastened.

Frigate: First used to refer to any fine-lined and fast-sailing vessel. In the 17th century, was used to refer to any rated warships below those in the line of battle or to most large cruisers, typically including the Fourth, Fifth and Sixth Rates.

Futtocks: The upper timbers of a frame.

Garboard: The external planking strake that is closest to the keel.

Ground Tackle: Anchors, cables and the gear used to handle them

Gun: Can refer to any firearm, but usually used to indicate a long cannon with high muzzle velocity and a flat trajectory.

Gun Deck: The lowest deck of a warship on which guns are mounted.

Gunwale: The uppermost longitudinal timber forming the side of the ship.

Halyard: Rope or tackle used to hoist or lower the yards onto which the sails are attached.

Helm: The ship's steering gear.

Hundredweight (cwt): A measure of weight equivalent to 112 pounds or 50.8 kilograms.

Keel: The central longitudinal timber upon which the framing of a ship's hull is mounted, forming the backbone of the ship.

Keelson: An internal longitudinal timber, fastened on top of the frames and fixed above and to the keel for additional strength.

Knee: A piece of timber with an angular bend used to join and reinforce two perpendicular timbers.

Lee Shore: A shore to leeward of a ship, towards which the wind blows her.

Mast: A large vertical wooden spar that supports the yards and sails of a vessel. Seventeenth-century English warships typically had three masts: the foremast, the mainmast and the mizzen mast (from fore to aft).

Master Shipwright: The senior naval constructor at each Royal Dockyard. The term "builder" in Admiralty records typically refers to the Master Shipwright in the post at the dockyard when the ship was launched.

Minion: A small muzzle-loading gun firing a shot of 4 pounds.

Mizzen mast: The mast directly aft of the main mast, usually the aftermost mast of a three-masted vessel.

Muster: A list of all persons actually on board a ship, or an assembly of the ship's company in order to compile such a list.

Line of Battle: A naval formation used in battle consisting of the larger rates of warships, typically from the First Rates through the Fourth Rates.

Nocturnal: A navigational tool used to determine the time at night by using the positions of the stars in the night sky as they rotate around the pole.

Ordinary: The establishment of ships laid up out of commission in the dockyard reserve, used to refer to ships that have been removed from active service or "mothballed."

Pedrero (paterero): A small gun firing hailshot and typically mounted on a swivel.

Pinnace: A small, fine-lined vessel designed for fast sailing and rowing, used as an auxiliary to a naval fleet and used for similar duties as a frigate or sloop. Later refers to a ship's boat rowed with eight oars.

Privateer: An armed merchant ship, licensed by letter of marquee from the High Court of Admiralty to capture enemy ships for her owner's profit.

Prize: A captured enemy vessel. The proceeds from the sale of a prize and its cargo were shared between the officers and crew of the capturing ship according to an established ratio of shares.

Quarter Deck: A deck above the main or weather deck, running from the stern forward about halfway along the length of the ship to a point aft of the mainmast.

Quarter Gunner: A position responsible for handling and maintaining four iron guns, reporting to the gunner.

Rate: One of the six classes into which English warships were divided, with First Rates carrying the greatest number of men and guns, and Sixth Rates the least.

Rigging: The system of lines, blocks and pulleys used to support the masts and operate the sails.

Round House: A cabin sheltered by the after end of ship's poop deck.

Saker: A muzzle-loading gun firing shot of 5¼ pounds. Under the 1677 establishment, the terminology was changed so that 6-pounder guns and even 8-pounder guns were know as "sakers," while the 5¼ pound guns became known as "light sakers"; however, the terminology later reverted to the previous usage (Winfield 2009: xlix).

Sally Port: A doorway in the lower tier of a fireship, near the stern, through which the crew could escape to a boat towed astern after the lighting the vessel.

Scarf: A lapped joint connecting two timbers or planks.

Sgraffito: A technique of applying to an unfired ceramic body two successive layers of contrasting slip or glaze, and then engraving or scratching to reveal parts of the underlying layer.

Sheet: A line controlling the after (lower) corners of a sail.

Shrouds: Part of the standing rigging, consisting of heavy lines that brace a mast or topmast laterally.

Sloop: In the 17th century, a two-masted vessel with a square sail on both the fore and main masts, typically also having sweep ports for rowing.

Spritsail: A small sail flown from the bowsprit.

Spritsail Topmast: A short vertical mast stepped at the end of a ship's bowsprit.

Stays: Part of the standing rigging, heavy lines that brace a mast fore and aft.

Stem: A large curved timber forming the front extremity of a vessel, typically scarfed to the forward end of the keel.

Stern post: A large straight timber at the extreme aft end of a vessel and attached to the aft end of the keel.

Surveyor: One of the chief designers of warships for the Royal Navy, and a member of the Navy Board.

Tiller: A lever for controlling the ship's rudder.

Transom: The athwartship timber or structure at the aft end of a ship's hull framing.

Turn of the Bilge: The angle between the bottom of ship's hull and its sides.

Waist: The area of a ship's upper deck between the break of the forecastle and the break of the quarterdeck.

Wardroom: A cabin typically located in the stern of a warship used as the commissioned officer's mess.

Westerwald: A distinctive type of salt-glazed stoneware pottery, typically with a grey body decorated with underglaze cobalt oxide and manganese.

Yacht: A small vessel of varying rig intended primarily for pleasure.

Yard: A horizontal spar fitted to the forward side of the mast to support a square sail.

APPENDIX C: LIST BOOKS FOR *SAPHIRE*, 1675-1696

The Royal Navy fleet lists, now catalogued as ADM 8 at the National Archives, provide information on the commander and lieutenant, the complement of men, and the location of each ship based on monthly returns compiled by the Admiralty Board for the information of the Navy Board. The number of men refers to the complement of officers and crew established based on the ship's rating and current service, but the actual number carried at any particular time varied.

The list books are organized geographically to reflect the fleets and squadrons that operated within specific areas, including the Mediterranean, the North Sea, the Channel, North America, the West Indies, and the East Indies.

Reference: TNA ADM 8, List Books, vol. 1 to 5
Transcribed in Proulx 1979: 55-66.

Date	**Commander**	**Lieutenant**	**Men**	**Location**
8/7/1675	Tho. Harman	Jos. Nevell	140	Harwich
3/8/ ″	″	″	″	Woolwich
6/9/ ″	″	″	″	Downes, attending Turky ships
8/10/ ″	″	″	″	Convoying Turky ships
2/11/ ″	″	″	″	″
30/11 ″	″	″	″	″
1/1/1676	″	″	″	″
1/2/ ″	″	″	″	″
3/3/ ″	″	″	″	″
14/4/ ″	″	″	″	″
8/5/ ″	″	″	″	″
8/6/ ″	″	″	″	Station Sally
3/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
3/9/ ″	″	″	″	″
2/10/ ″	″	″	″	″
1/11/ ″	″	″	″	″
1/1/1677	″	″	″	″
1/2/ ″	″	″	″	″
6/3/ ″	″	″	″	Station Tangier
3/4/ ″	″	″	″	″
1/5/ ″	″	″	″	″
21/5/ ″	″	″	″	Station Tangier and Streights
1/6/ ″	″	″	″	″

Date	Commander	Lieutenant	Men	Location
19/6/ ″	″	″	″	″
14/7/ ″	″	″	″	″
1/8/ ″	″	″	″	Station Streights
1/9/ ″	″	″	″	″
1/10/ ″	″	″	″	″
12/11/ ″	″	″	115	″
7/12/ ″	Cloud. Shovell	″	″	″
2/1/1678	″	″	″	″
201/1/ ″	″	″	″	″
10/2/ ″	″	″	″	″
1/3/ ″	″	″	″	″
17/3/ ″	″	″	″	″
5/4/ ″	″	″	″	″
28/4/ ″	″	″	135	″
21/5/ ″	″	″	″	″
10/6/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
1/9/ ″	″	″	″	″
1/10/ ″	″	″	″	″
7/11/ ″	″	″	″	″
5/12/ ″	″	″	″	″
1/1/1679	″	″	″	″
1/2/ ″	″	″	″	″
25/3/ ″	″	″	″	″
1/4/ ″	″	″	″	Gone to Turky
18/4/ ″	″	″	″	Station Streights
22/5/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
4/9/ ″	″	″	″	″
1/10/ ″	″	″	″	Ordered home
1/11/ ″	″	″	″	″
1/12/ ″	″	″	″	″
1/1/1680	″	″	″	Downes
1/2/ ″	″	″	″	Woolwich
3/3/ ″	″	″	″	Deptford
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	145	Cruizing abt Tangier
1/9/ ″	Ed. Wheeler	″	″	Station Streights
1/10/ ″	″	″	″	″
1/11/ ″	Cloud. Shovell	″	″	Attends the Argereens
1/12/ ″	″	″	″	At Tanger
1/1/1681	″	″	″	″
1/3/ ″	″	Sym. Faulks	″	Attends the Argereens
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	″
1/6/ ″	″	″	″	″

Date	Commander	Lieutenant	Men	Location
1/7/ ″	Ant. Hastings	″	″	″
1/8/ ″	″	″	″	″
1/9/ ″	″	″	″	″
1/10/ ″	″	″	″	″
4/11/ ″	″	″	160	″
5/12/ ″	″	″	″	″
3/1/1682	″	″	″	″
4/2/ ″	″	″	″	″
3/4/ ″	″	″	″	″
2/5/ ″	″	″	″	″
4/6/ ″	″	″	″	″
3/8/ ″	″	″	″	″
2/9/ ″	″	″	90	Station Streights
2/10/ ″	″	″	″	″
1/11/ ″	″	″	″	″
1/12/ ″	″	″	145	″
1/1/1683	″	″	″	″
3/2/ ″	″	″	″	″
1/3/ ″	″	″	″	″
1/5/ ″	″	″	″	″
2/6/ ″	″	″	115	″
3/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
13/9/ ″	″	″	″	″
1/12/ ″	″	″	″	Lord Dartmouth Squadron
12/12/ ″	″	″	90	Forced into the Streights
29/12/ ″	″	″	″	″
15/4/1684	″	″	115	Sally Squadron
14/5/ ″	″	″	″	″
26/6/ ″	″	″	″	Station Sally
12/7/ ″	″	″	″	″
17/7/ ″	″	″	″	″
30/8/ ″	″	″	″	″
28/10/ ″	″	″	″	″
4/12/ ″	″	″	″	″
1/1/1685	″	″	″	″
1/2/ ″	″	″	″	″
12/3/ ″	″	″	″	″
14/4/ ″	″	″	″	″
11/5/ ″	″	″	″	″
14/5/ ″	″	″	″	″
5/6/ ″	″	″	″	″
18/6/ ″	″	″	″	″
2/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
1/9/ ″	″	″	″	″
6/10/ ″	″	″	″	Portsmouth to be paid off
1/11/ ″	″	″	″	″
8/7/1686	″	″	″	Fitting out

Date	Commander	Lieutenant	Men	Location
				Portsmouth
1/8/ ″	Jo. Tosier	Tho. Buckeley	115	″
15/9/ ″	″	″	″	Spithead
1/10/ ″	″	″	″	Downes
1/11/ ″	″	″	″	Downes ready to sayle
1/12/ ″	″	″	″	Plymouth on her way
1/1/1687	″	″	″	Station Sally
1/2/ ″	″	″	″	″
1/3/ ″	″	″	″	″
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	″
1/6/ ″	″	Brisbane	″	″
8/7/ ″	″	Tho. Buckeley	″	″
8/8/ ″	″	″	″	″
1/9/ ″	″	Brisbane	″	″
3/10/ ″	″	″	″	″
2/11/ ″	″	″	″	″
2/12/ ″	″	″	″	″
/1/1/1688	″	″	″	″
3/2/ ″	″	″	″	″
5/3/ ″	″	″	″	″
1/4/ ″	″	″	″	Ordered home
1/5/ ″	″	″	″	″
1/6/ ″	″	″	″	″
5/7/ ″	″	″	″	″
12/8/ ″	″	″	″	″
1/10/ ″	″	″	″	″
14/11/ ″	″	″	″	″
1/12/ ″	″	″	″	″
1/1/1689	″	″	″	Station New England
3/2/ ″	″	″	″	″
1/4/ ″	″	″	135	Cadiz, coming home
7/5/ ″	″	″	″	Coming from Plymouth to the Downes
1/6/ ″	Wings	″	″	Ordered to Deptford
28/6/ ″	″	″	″	Deptford
1/7/ ″	″	Tho. White	″	″
1/8/ ″	″	″	″	Ordered in pursuit of French ships
1/9/ ″	″	″	″	Returning convoy to East Country shipps
1/10/ ″	″	″	″	″
1/11/ ″	″	″	″	Irish squadron
1/12/ ″	″	″	″	Deptford, refitting
1/1/1690	″	″	″	″
1/2/ ″	″	″	″	Spithead
1/3/ ″	″	″	″	Torbay
1/4/ ″	″	″	″	Mediterranean squadron
1/5/ ″				

Date	Commander	Lieutenant	Men	Location
1/6/ ″	Jam. Killigrew	″	″	″
1/7/ ″	″	″	″	Convoy to Mallaga & Alicant
1/8/ ″	″	″	″	″
1/9/ ″	″	″	115	″
1/10/ ″	″	″	″	″
1/11/ ″	″	″	″	Deptford, fitting for Streights
1/12/ ″	″	″	″	″
1/1/1691	″	″	″	Spithead, ordered for Streights
1/2/ ″	″	″	″	″
1/3/ ″	″	″	″	″
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	″
1/6/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	″	From Plymouth to Downes
1/9/ ″	″	″	″	Ordered to the Northward
1/10/ ″	″	″	″	Towards Shetland
1/11/ ″	″	Nich. Dyer	135	Convoy the herring fishery off the North Foreland
1/12/ ″	″	″	″	Portsmouth, refitting
1/1/1692	″	″	″	Cruise on French coast
1/2/ ″	″	″	″	Plymouth
1/3/ ″	″	″	″	Convoy to Portugall
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	Coming from Portugall
1/6/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	″	Spithead
1/9/ ″	″	″	″	Sheerness, refitting
1/10/ ″	″	″	″	Cruising between Yarmouth Road & Timm. Barr
1/11/ ″	″	″	″	Cruise between SE end of Shetland & Bergen, Nor.
1/12/ ″	″	″	″	″
1/1/1693	″	″	″	″
1/2/ ″	″	″	″	Elsinore, convoy mercht ships home
1/3/ ″	″	″	″	″
1/4/ ″	Hov. Walker	″	″	Portsmouth refitting
1/5/ ″	″	″	″	Convoy to Kinsale
1/6/ ″	″	″	″	″
1/7/ ″	″	″	″	″

Date	Commander	Lieutenant	Men	Location
1/8/ ″	″	″	″	Coast of Ireland
1/9/ ″	″	″	″	″
1/10/ ″	″	″	″	″
1/11/ ″	″	″	″	″
1/12/ ″	″	″	″	″
1/1/1694	″	″	″	″
1/2/ ″	″	″	″	″
1/3/ ″	″	″	″	″
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	Ordered to Portsmouth
1/6/ ″	″	″	″	Portsmouth, refitting
1/7/ ″	R. Wynn	″	″	With Lord Berkely
1/8/ ″	″	″	″	St. Hellens
1/9/ ″	″	″	″	Downes
1/10/ ″	Cha. Brittiffe	″	″	Nore
1/11/ ″	″	″	″	Sheerness, refitting
1/12/ ″	″	″	″	Sheerness, ready
1/1/1695	John Lytcott	James Brothers	″	Ordered to Nore
1/2/ ″	″	″	″	Cruising off St. Malo
1/3/ ″	″	″	″	″
1/4/ ″	″	″	″	″
1/5/ ″	″	″	″	Ordered to the gun fleet
20/5/ ″	″	″	″	Sheerness to refit
1/6/ ″	″	″	″	On French coast
27/6/ ″	″	″	″	Ordered to join Lord Berkeley’s command
4/7/ ″	″	″	135	With Lord Berkeley
1/8/ ″	″	″	″	″
22/8/ ″	″	″	″	Downes
29/8/ ″	″	″	″	Yarmouth to protect herring fishery
1/9/ ″	″	″	″	″
1/10/ ″	″	″	115	″
1/11/ ″	″	″	135	Yarmouth
24/11/ ″	″	″	″	Hull, convoy
1/12/ ″	″	″	″	Sheerness, refitting
15/12/ ″	″	″	″	″
12/1/1696	″	″	″	″
1/2/ ″	Tho. Cleasby	″	″	Ordered convoy transport ships to the Nore
9/2/ ″	″	″	″	Spithead
23/2/ ″	″	″	″	Ordered to convoy ships to Newfoundland
1/3/ ″	″	″	″	Downes
15/3/ ″	″	″	″	Spithead
22/3/ ″	″	″	″	″
12/4/ ″	″	″	″	Ireland
29/4/ ″	″	″	″	Newfoundland

Date	Commander	Lieutenant	Men	Location
				convoy
1/5/ ″	″	″	″	″
1/6/ ″	″	″	″	″
1/7/ ″	″	″	″	″
1/8/ ″	″	″	″	″
1/9/ ″	″	″	″	″
1/10/ ″	″	″	″	″

After October 1696, the *Saphire* no longer appears in the list books.

APPENDIX D: SELECTED TRANSCRIPTIONS

Letter to the Navy Board from Sir Anthony Deane
Portsmouth
June 3, 1675

Reference: TNA ADM 106/310/107

I have written to Harwich this post to direct the launching of the Saphire this next spring if possible, which I hope will be done with success. The masts and yards are all there. If it be thought convenient that the rigging and stores may be sent also by the time of launching, it will save time, when men are entered to bring her away, which is left to further consideration and answer to him who is My Lord and Gentlemen.
Your most humble servant
Anthony Deane

[MARGINAL NOTE] Read the 4th: Let Captain Beare provide a vessel and send away her rigging, sails and ground tackle. Sent warrant to W[oolwich] to issue those stores and to make demand of what is wanting.

Letter to the Navy Board from Sir Anthony Deane
Portsmouth
June 17, 1675

Reference: TNA ADM 106/310/115

I did a week since write to Harwich that everything should be finished of Saphire to complete punctually with the contract, and shall ... hope their shall be all complete as desired, for four pair of Standards between decks there may be riders as the contract mentions either and we have now other in this great ship, which is far beyond standards as may be viewed when you please to come downer. In a word I shall do everything to content your selves although it add to the cost I shall sustain by accounts received last post. I shall take the best care I can to secure the timber till we launch as desired.

Letter to the Navy Board from Silas Taylor
Harwich Dockyard
June 17, 1675

Reference: TNA ADM 106/311/213

To your Honours letter of the 25th instant: I believe the launching of a merchants ship here, or at least the endeavoring on Monday last to launch one, might give occasion to the report of the fifth-rate here launching, which I received several last night from London notice of.

Mr. John Carter the boatswain of the new fifth-rate ship (which I understand is called the Saphire) arrived here Tuesday last, in a small vessel called the John Hoy of London, one John Clerke master, which brought cables and anchors, etc from Woolwich, directed to the boatswain himself and not to me and although no contract could be produced by the master of the hoy, yet I thought fit not to let him here upon moorage and so hand delivered him of his lading, of all but the anchors yesterday, before the receipt of your Honors letter and of those also this morning.

As to the launching of this ship, the building ways were last night placed under her. But the sides having fallen out so small and mean, and we not having her cables and anchors, whilst this spring was at the best, for launching is put off til the next full moon.

I am taking order for the stocking her anchors, for which as well as the delivering yesterday the hoy of the Saphire's goods for which I paid, and must pay more when she is launched for ballasting, smiths work, block work etc. I humbly present and lay before your Honours my want of money.

I have begun a books for the Saphire and have entered the carpenter, the boatswain and his servant, but leave it before your Honors to appoint when they are to enter upon victuals and pay and desire to receive your orders, whither I shall enter any upon in case they offer themselves.

I am, Right Honorable, your most humble and obedient servant,
Silas Taylor

Letter to the Navy Board from Silas Taylor
Harwich Dockyard
June 29, 1675

Reference: TNA ADM 106/311/217

Having stopped the post till the finishing the best part of this tides work, I have no more time then to give your Honours an account that his Majesty's ship the Saphire is very well launched in it. Her mooring were out before and I had 2 boats ready afloat with about 40 tun of ballast for her. The captain is here, men are wanting for this frigate and victuals for those few that are here.

Letter to the Navy Board from Silas Taylor
Harwich Dockyard
July 1, 1675

Reference: TNA ADM 106/311/219

Last night I received yours of the 29th past, at which time Mr. Richard Wight the victuallers agent from Ipswich was here with Captain Harman and myself and hath taken order for victuals.

We do expect and desire the necessaries that are coming by sea for the Saphire, though as the wind now stands we have little hopes to see them.

I doubt the proposal of getting the Saphire's masts by her topmast and yard will hardly succeed; if they have been rough, they might probably have effected it, but having received it in command they are resolved to proceed in it.

Joseph (not Edward) Dixon, wanting a leg, is here and was mustered yesterday; he hath been here these 4 days. I shall not mention his capacity in my books whither able seaman or what else because I cannot make it out here, how he has been formerly borne.

Letter to the Navy Board from Silas Taylor
Harwich Dockyard
July 6, 1675

Reference: TNA ADM 106/311/221

I received yours of the 3rd instant and return you this account of the present state of affairs here. The Providence hoy of Greenwich sent hither with the Saphire's rigging etc. Arrived here about noon on Saturday being the 3rd instant.

We have found out another way for setting her masts (that way which was formerly ordering missing of success on Saturday last). Her foremast and mainmast are already set and they are now about setting her boltsprit; and this by the ready assistance of Captain Radfords ship here in port.

Captain Harman is acquainted with what you desired he should know, viz: that the Commissioners of the Navy are out of town etc; he hopes to receive their orders by tomorrow's post; for, notwithstanding all the fair words from the Mayor here and the bailiffs of Ipswich, he hath not received from either of them a man to assist in setting the masts or rigging of his ship.

The anchors sent down (by reason of their bigness) are in no wise fit for her. But here, at Mr. Watkins his shop an anchor smith, are to be had (if the Commissioners shall be so pleased)
One anchor weighing - 16 cwt : 0 qtr : 00 lb
One of – 14 cwt : 1 qtr : 07 lb
One of – 14 cwt : 0 qtr : 00 lb
Another of - 11 cwt : 1 qtr : 7 lb
Which sizes Mr. Betts and other judge to be far more proper for her than the others; the anchor smith being absent, I could not send the prices.

The tops also sent down from Woolwich by this last Hoy are very much too big for her; but we are provided with others more fit; which I had caused to be made; by a former order of Commander Dean's to me. I desire to know what I shall do with those tops sent down; whither to take them a shore here; or return them back by the same hoy to Woolwich. Her cables are also very much too big for her, and will not serve, but in that we cannot help her; yet we are making her chain pumps here.

I believe I ought to pay conduct money to such men as come by water to the Saphire; because paying for their passages they are at charge as well as those that come by land. But your advise in the case would clear all my doubts in it.

Letter to the Navy Board from Captain A. Beare, Master Attendant Woolwich Dockyard
July 28, 1675

Reference: TNA ADM 106/315/202

His Majesty's ship the Saphire being arrived this high water we repaired on board her and finding several things requisite to be performed upon her in order to her voyage have thought it more expedient for his Majesty's Service to forbear the hauling of her ashore to tallow till we have your Honours further directions first in respect the ship may foul before her other works be performed and then by that time her other works be done there may be an opportunity of bringing her into the dock which may prevent the danger of hauling her ashore which we only offer to your Honours consideration.

An account of works to be done to the *Saphire* from Phineas Pett, Master Shipwright
Woolwich Dockyard
July 28, 1675

Reference: TNA ADM 106/315/310

Yesterday in the afternoon – upon the arrival of the Saphire the Master of Attendance and myself went immediately on board and after surveying of her as to those things that are necessary to be done, we presently dispatched an express to your Honours by the carpenter of the ship, who promised to make speed to deliver the same.

I have enclosed the particulars of the work requisite to be done, but in regard your letter of the 24th instant forbaddeth the going forward with then till further directions, I humbly desire to have your speedy order herein, as also whether we shall tallow her before the works be dispatched or let the tallowing alone till last, that so she may have no occasion for stay but only to take in her guns and provisions and be gone.

....

The breadroom of the Saphire must either be tinned or leaded which your Honours think fit I newly believe that which decays the lead and tin also so much in every ships breadroom is the laying of it upon the naked plank the dampness whereof occasions the aforesaid evil, for prevention of which I humbly present it to your Honours as expediency the breadroom be first lined with thin stiff deal and then the lead or tin will endure the longer and keep the bread drier.

An account of works to be done to the *Saphire* from Phineas Pett, Master Shipwright
Woolwich Dockyard
July 28, 1675

Reference: TNA ADM 106/315/312 (enclosed in 310)

The upper works without board with the decks to be caulked
An awning on the quarterdeck
The hawses to be lined
The [bucklers?] to be fitted
The pumps to be placed and fixed with dales and chains and the works to be shut up about them
Two pisdales
A binnacle for the quarterdeck
To have 2 scuttles in the staircase of the steerage
Iron stanchions fore and aft
Iron bars for the gratings
Frames for canvas cabins
Curtain rods for the captain's cabin
Two hen coops
A seat to be fixed against the bulkhead of the steerage
A table for the quarterdeck with a chair and [fourmes?]
Irons for the lanterns
A table for the steerage with 2 [fourmes?]
Washboards under the lower cheek of the head
2 ports to be cut out right aft in the great cabin
6 ports forward on the upper deck to be fitted with lids
A belfry to be fitted
4 eyebolts to hook the top blocks in the deck and 2 for the topsail halyards in the side
4 ringbolts of a side in the deck to lash the boats
The bread room to be leaded or tinned
2 copper funnels with hoods
To dock or haul her ashore and tallow her.

Letter to the Navy Board from Captain A. Beare, Master Attendant Woolwich Dockyard
August 19, 1675

Reference: TNA ADM 106/315/3206

According to your Honours order, we went yesterday down the river on board the Saphire and have made a strict survey of the stowage of her provisions, both of bread and beer, and find that although she have but a little more than two months of either sort in, yet she is as full, both in respect of her bread room and hold as can possibly be got in, there being scarce room enough left to stow her cables and sails. But in case there be a necessity and yet it is your Honour's pleasure that she shall carry a month's bread more, there may with some difficulty (by quite taking away the steward room, and also part of the Captain's store rooms, which will be some inconvenience, besides charge) be room made for the stowing of about a month's bread more, but we also maintain that the price of such a quantity of bread in the Streights will not so much exceed the value of it here as the charge of the works will come to, besides the trouble and incommoding of the ship. The breadroom and other store rooms being the very same without alteration as they were first contained, and therefore indicated by the manner of her built and bigness of her breadroom, she was not designed to carry more provisions then she now hath in; What your Honours please to direct shall be done accordingly.

Letter to the Navy Board from Captain Thomas Harman
The *Saphire* in the Downs
September 5, 1675

Reference: TNA ADM 106/311/195

Since I had the honour to see you last I had some discourse with you of several things that concern the voyage that I am ordered for and you were pleased to order me to write what was then discoursed upon. The first was concerning shore allowance money. I made it my request to you that you would do the mariners the favor to order it to be paid them every 28 days, which I hope your Honours will think a great kindness to them and no inconvenience to his Majesty's service and as for tallowing the frigate I suppose it is very well known to your Honours that Tangier is no fit place to careen this ship at but rather within the Bay of Cadiz or any other place where it may be judged safe and convenient for running this ship ashore to tallow her. I suppose Sir Thomas Allen and Sir John Tippets who were present and viewed the bilge of her will judge it a very great hazard. As for masts, rigging, anchors, cables and provisions, I suppose I may be furnished with at Tangier.

Letter to the Navy Board from Captain Thomas Harman
The *Saphire* in the Downs
September 17, 1675

Reference: TNA ADM 106/311/191-192

I have according to command surveyed the boatswains stores and there is wanting what is expressed in the enclosed. I am informed that there is junk ashore at Deale and it would be well if I had some of it, and some little casks to fetch water in which we call barricoes with several other necessaries. But nothing will be delivered here without an order from the Honourable Board.

An account of what stores are wanting of the indent in his Majesty's ship Saphire at a survey in the Downs the day above written
Wanting:
1 coil of inch rope
1 coil and ½ of 3 quarter rope
32 cwt of rosin
32 cwt of tallow
150 fathoms of old rope for rounding and caulking
10 longboat oars, of which is on the indent
50 fathoms of 3 inch & ½ rope

Witness our hands
John Nevell, Lieutenant
John Boone, Master

An account of what necessaries will be wanting during the voyage:
A watch bell in iron
Junk of 15 inch – 40 fathoms
[Viall?] of 7 inches – 30 fathoms cable laid
Buoy ropes 2 of 6 inches – 50 fathoms
1 coil of 2 inch rope
1 coil of 1 inch rope
2 coils of ¾ inch rope
Hammacoes – 50
2 spare ensigns – Turkish, Dutch or other colours
Rosin 1 weight; tallow 1 weight
Old rope for rounding and caulking – 300 fathoms
1 dozen of 9 inch blocks
1 dozen of 7 inch blocks
[Vittry?] 20 yards
1 dozen and ½ longboat oars

Letter to the Navy Board from Captain Thomas Harman
The *Saphire* in the Downs
September 26, 1675

Reference: TNA ADM 106/311/197

I thought it good to acquaint Your Honours that I have received an order from his Majesty to convoy the merchants ships belonging to the Turkey Company safe under the protection and command of Sir John Narbrough. Upon my receipt of this order I informed my master of it and demanded of him how he was acquainted in the Levant Seas. In answer to which he told me, he never was within the Streights mouth. I thought good to inform Your Honours of it that nothing of an error of that nature may be laid to my charge in not informing you. He is a good diligent man and fit for a master. The wind is at SW and SSW and very like to continue some time. Here is about sixty sail of ships in the Downs, and the six Smyrna ships which stay for nothing but a fair wind.

Letter to John Brisbane, Judge Advocate of the Navy from Captain Thomas Harman
The *Saphire* in Cadiz
August 12, 1676
Reference: TNA ADM 106/318/24

The 11th instant I received a line from you wherein you are pleased to say that being to wait upon the King at Sheerness you fell in company with some of the commanders of the Navy who told you of many complaints of my violence and nastiness to my officers and mariners and likewise you did what is you say to defend me but your not being acquainted with particulars, your defense proved lame. I have likewise that Honour for my superiors particularly the commanders of the Navy that I thought God and human experience has learnt them and I thought it is justice not to condemn a man before he answers for himself, I have heard say that some men in a momentary passion of their superiors have been executed and condemned afterwards. That orders from my superiors that I have disobeyed, that officers have ill treated, that seaman that I have unjustly punished, when I am by any of all those called to an account, I suppose I shall so justly clear myself that I shall smile at all those that speak ill of me (may and instead of yourself Sir Thomas Allin to be my judge) if I have committed any error it is in not publicly punishing those that deserved it. You desired me to write words what might be said in my defense all the favour I beg of you is, as you are a judge say and do what the law of God and man commands you to, I return your thanks for your letter and your good advice and when I return home you will then see who is well dealt with and who ill. If a sailor's complaint to the Commissioners of the Navy shall ruin a Captains honour before he can speak for himself, farewell fate I smile at thee.

Sobriety and study breeds suspicion in our acts and deeds the downright drunkard no man heeds, I believe my sobriety and one or two particular officers insobriety and insolent tongue hath been the cause, your friendly ears have heard what you do not like, this be certain that (I dare say) I have not struck one officer nor caused one sailor to be drubbed this voyage. Possibly I have struck a sailor with my cane, and so I dare say I have not worn a cane these eight months I cannot but smile at your letter. We now live in an age that a tarpaulin lad is thought fitter by some a companion for a [illegible] man then a gentleman and more fit for a master or boatswain than a commander. But the King saith desert is the honourable way of preferment and I will follow his advice. Fortune hath somewhat of the nature of a woman that if she be too much courted she is the further off. Therefore my [kindred?] Brisbane I will have patience and see what time will produce if it lieth in my power to serve my king and obey all orders I receive from the Lords of the Admiralty and the Commissioners of the Navy I will certainly do it.

Letter to the Navy Board from John Boone, master, Thomas Lavanay, boatswain, William Vickar, gunner, and John Bowyer, carpenter
On the *Saphire*, Tangier Bay
April 4, 1677

Reference: TNA ADM 106/328/6

We your humble servants have emboldened ourselves in giving your Honours the trouble of perusing this few lines, hoping they will find an acceptance in your favour for some shortening of this our long and dangerous voyage for it hath proven longer than our expectation, which length we mattered not, were it not for the severity of our Commander, who is so severe unto us that we can hardly live under him, and to please him it is impossible, we have strived to do it to the utmost of our power but cannot which makes as it were our lives a burden to us.

Wherefore we humbly beg and pray your Honours to employ some others in our places, and an order for our coming home, not that we are wishing to desert his Majesty's service but hoping we shall obtain such favours at his Majesty's hands to serve under some other Commanders that we may give content unto, for we are willing to serve our gracious King and Country during our lives and accordingly prove the King's most faithful subjects. So praying your Honours pardon for our boldness, we remain your Honours most humble and obedient servants.

Letter to the Navy Board from Sir Roger Strickland
On the *Dragon,* St. Helen's Road
October 18, 1677

Reference: TNA ADM 106/328/411

When I left Cadiz our affairs with Algier stood as followeth. Upon Sir John Narbrough's arrival at Tangier the 29th of August, Captain Harman came up with an Algerine who refusing to come to, the Admiral fired both great and small shot into him. Two days after the Assurance, Saphire and Pearle seized two of their small men of war, on the 3rd of September the Saphire and Pearle gave chase to the Lion of Algier. The first came up and upon his commanding him aboard immediately engaged. Captain Harman being shot and all his quarterdeck men killed or wounded, the ship (for want of a convoy) came in a hard gale and great sea which brought all her masts by the larboard. Captain Harman some few days after died of his wounds. Sir John has since take a prize laden (as I hear) with masts, pitch, tar, etc as writ to me the best ships of Algiers outward bound had narrowly escaped him and got into the west sea on the 29th of September, being 55 leagues west by north from Cape St Vincent. I took up a wreck which undoubtedly had been taken by them. They will not spare any English they meet with. The vessel is an English pink of 80 tons bound either for Malago or Canaries stripped of all her sails and nothing left but anchors and one old cable. If these circumstances should have already your ears, I humbly beg your pardon and remain your most faithful and humble servant.

Letter to the Navy Board from Captain Clowdisley Shovell
On the *Saphire*, Tangier
October 22, 1677

Reference: TNA ADM 106/328/338

Being by the Honourable Sir John Narbrough, Admiral of his Majesty's fleet in the Mediterranean seas, since the death of Captain Thomas Harman, Commander of his Majesty's ship Saphire, appointed and commissioned as commander of the said ship. I hereby transmit to your Honours two muster books relating to the ship under letter and confirmed by me until then acknowledging my duty to acquaint your Honours therewith. Having nothing more a present but that I remain you most humble servant.
Clowdisley Shovell

Letter to the Navy Board from Sir John Narbrough
On the *Plymouth*, Tangier
October 26, 1677

Reference: TNA ADM 106/326/351

... the Saphire fought with the Great Orange Tree a ship of Algiers, mounted with forty cannon and much out sailing the Turk ship had the advantage on her to disable her much, wanting men could not take her, the night being dark the Turk got away before the other ships of my squadron could fetch her, the Saphir lost her bowsprit, foremast and yards, and disabled much in her sails and rigging. Masts, yards, cordage, sails, blocks, nails, in short all manner of stores for supplying of shipping are much wanted here, except cables and anchors. Provisions is much wanted by some Turks I have lately taken inform me that the ship with victuals for Tangier (whereon is Sir Dennis Gaden's son) is taken by the ships of Algiers and some other merchant ships, which they have sunk. Doubting they could not carry them safe into Algiers, it is very unsafe at present for merchant ships to pass to and from the Straights without good convoy, some of the Algiers ships which are abroad are mounted with fifty cannons.

Survey of Repairs Required to the *Saphire*
Deptford
February 20, 1679

Reference: TNA ADM 7/827/102
Transcribed in Proulx 1979: 51-54

	£	s	d
We have been on board the Saphir and surveyed her and have taken account of what is needful to do to her to repair the platforms and storerooms in hold with the well and shot locker	28	00	00
To shift about 500 ft of 3 inch plank on the gun deck being worn thin, to make good what carlings and ledges are bad with lifting some seams and putting in pieces and to repair the hatches and scuttles	55	10	00
To take down the manger and cisterns to make good underneath, and to put them up again and to fay a new cross piece to the main bitts	12	00	00
To take down the furnaces and fire hearth and to set them up again	12	00	00
To fix a new drumhead to the main capstan to make good the bar and ? together with the ladders and ? pillars between decks	9	00	00
To shift 2 upper deck beams and 4 knees with about 200 ft of spruce deal on the lower deck to make good the carlings and ledges in the wake thereof to take down the steerage bulkhead to fit a new beam and 2 standards in the wake of it and to set up the bulkhead new again	39	10	00
To have a new companion forward on? most parts of the grating to be new to repair the rest and to make good the topsail sheet bitts	26	00	00
To take about 40 feet of spirketing forward or ? and torn down some timbers that are broke to bring on a new spirketing, to have a new capstan and bars	40	00	00
To take off the mizzen channel on the larboard side with about 150 feet of spruce to run down about 12 timbers that	32	10	00

are broke to shut up all again with spruce deal to fit 2 new mizzen channels with new chain plates and bolts and to make good the inboard work against it			
To repair the fore peak and bulkhead, to new sail and gunwale the head with new timbers and cross pieces, to fay new brackets and to have new linings for the hawses and to bring on a new gripe and throat piece to the knee of the head	25	00	00
To place new main and fore channel with new chain plates and bolts being broke and shot to pieces most of the ports to be new being bad by often beating out and to repair the rest	40	10	00
To repair and make good the sails, gunwales plank sheers fore and aft with the kenells ranges, sheet blocks ladders most to her of to be new [!] and to make good the chesstrees, fenders and steps on the sides	26	00	00
To have a new rudder, tiller and false post with new to bring on a new false keel and to put in some pieces underwater	44	00	00
To build two new boats	36	10	00
To fay several pieces for carved work as a new taffrail, a new piece and several other pieces	12	00	00
To have new main masts, new bowsprit new main yard and a new cross jack yard with other mast and yard	45	10	00
To fit the ship with tarpaulins coats for masts, helm coat leather scuppers and leather for pumps to wedge cleat and ring the masts and yards to stock her anchors with other finishing works	34	10	00
To have all new glass to make good the plater works of the cookroom the breadroom being not sealed to seal it with tin	36	00	00
To have one new chain pump and to make good other blockmakers work	8	10	00
To cover the furnaces with lead to have about 6 or 8 lead	12	10	00

scuppers with other plumbers work			
To perform what painters work is wanting	18	00	00
To repair the joiners work	21	00	00
To make good what carvers work is wanting	25	00	00
To careen the said ship likewise to caulk her within board and without and to grave her with white stuff	80	00	00
For shifting of 500 feet of 3 inch plank on her gundeck more then was discoursed with some new carlings and ledges	52	00	00
For shifting about 1200 feet of spruce deal on the upper deck with some new carlings and ledges for 3 pieces of new waterway and 2 pieces of spirketing with new spirkett gunwales	74	00	00
For placing 2 quarter deck and knees and new laying the quarter deck 2 of new topsail sheet bits and cross pieces with a new ?	48	00	00
For faying one of new standards on the gundeck for new hatches with other works	11	00	00
For 14 new lead scuppers and repairing the carling of the breadroom with thin lead	18	00	00
	922	10	00

Letter to the Navy Board from Captain Clowdisley Shovell
On the *Saphire*
March 24, 1680

Reference: TNA ADM 106/353/131

His Majesty's Ship Saphir being rated as to her defense

I humbly propose for her better defense and security if overpowered by the enemy:

To raise the forepart of the upper deck about eighteen inches, so as men may stand between decks to ply small arms to clear the upper deck, quarterdeck, etc.
To raise the after part of the quarter deck about twenty four inches, so as men may stand on the lockers abaft in the great cabin to ply small arms to clear the quarterdeck, tops, yards, rigging, etc.
To remove the two after ports in the steerage, they being now directly against the whipstaff.
To make two ports after in the great cabin.
To make the grating narrower about ten inches.
To allow her one hundred and seventy men to her complement.

Clowdisley Shovell

Letter to the Navy Board from Captain Clowdisley Shovell
On the *Saphire*
March 24, 1680

Reference: TNA ADM 106/352/131

His Majesty's Ship Saphir being rated as to her defence, I humbly propose for her better defense and security if overpowered by the enemy

To raise the forepart of the upper deck about eighteen inches, so as men may stand between decks to ply small arms to clear the upper deck, quarterdeck, etc.
To raise the after part of the quarter deck about twenty four inches, so as men may stand on the lockers abaft in the great cabin to ply small arms to clear the quarterdeck, tops, yards, rigging, etc.
To remove the two after ports in the steerage, they being now directly against the whipstaff.
To make two ports after in the great cabin.
To make the grating narrower about ten inches.
To allow her one hundred and seventy men to her complement.

Letter to the Earl of Sunderland from Charles Fanshaw
Lisbon
July 17, 1684

Reference: TNA SP 89/16/52/101

… The Swan frigate is come into this port to be victualled for her voyage home, who brings us news that Captain Hastings in the Saphire has sunk the Admiral's ship of Sally upon their own coasts as he was at anchor, taken his person prisoner, with about forty moors, and rescued forty Christians, since which he has taken also the Vice Admiral with a Dutch prize in his possession; we expect his shortly here where he will be very welcome, for this success gives us very good reputation in these parts. Captain Shovel is come in this day from cruising who has not had the fortune to meet with an of those pirates.

Letter to the Earl of Sunderland from Charles Fanshaw Regarding the Imbroglio of His Majesty's Ship the *Saphire*
Lisbon
October 9, 1684

Reference: TNA SP 89/16 /68/133

I have not yet the honour of any from your Lordship by this ordinary. The enclosed papers will show your Lordship what ado has been made about those ten guns Captain Hastings fired accidentally, which I cannot but think was very slight occasion to make such a bustle considering the circumstances. The humour of pressing it so much was to show the world at what rate they would command in their ports, for what they aimed at was to make the ship go lie below the mark, which we endeavoured at first to avoid by his going straight to cruise at sea when unluckily his capstan broke, and after, having gotten another and that he was just going over the bar it was found that his mast was deficient, especially seeing the winter was coming on, upon which they renewed their first design, and nothing would content them but his going to lie below, for no other reason that I know but that they might have their will.

I think these papers will let your Lordship see what artifice the Secretary of State used with me, for after an hour's discourse very moderate on both sides by which some manner by his way of talk he led me to a mind of myself from meddling further in it, by telling him that if the King was plainly and thoroughly informed afresh there be no more trouble in the matter seeking by that measure his proposal, he on a sudden clapped his writing into my hands prepared before for that purpose, by which I perceived him to speak with me and his discourse in the aforementioned was artificial and contrived to engage me in the business which vexed me so that neither of us failed to express it and after all they have missed of their aim, for they thought good at last to content themselves without the going down, and have in a manner but the same satisfaction in writing which they had at first by word of mouth, for he has since answered my letter that the King is satisfied and has commanded to suspend the complaint which was to be made to his Majesty.

Letter to the Navy Board from Captain Anthony Hastings
Lisbon
July 17, 1685

Reference: TNA ADM 106/374/529-530

Pray deliver to Henry Mould boatswain of his Majesty's ship the Saphire the particulars following for use of the said ship for which I have signed three warrants of this tenor and date.

Hawser of 5 ? - one
Junk of 15 inches – twenty fathom
Sashing line – one coil
White lines - six
Deepsea lines- two
Tar – one barrel
Twine four
Cable of 13 ½ - one
Shovels - two

Pray deliver to Samuel King, Carpenter of his Majesty's ship the Saphire the particulars following for use of the said ship for which I have signed three warrants of this tenor and date.

Junk of 15 inches – twenty fathoms
Small spars – eight
Twine – one [?]
Hoops for anchor stocks – three
Nails – 30/1200 – sixty cwt
Ditto – 24/1000 – 45 cwt
Sheet Lead – one – one – eight
Small spikes – forty five
Chain bolts – three
Futtock plate – one
Tar – one barrel
Rozon – two cwt

Letter to the Navy Board from Sir Richard Beach, Commissioner Portsmouth
October 3, 1685

Reference: TNA ADM 106/374/181

I have observed both here and elsewhere that most of His Majesty's ships which come from the southward and especially if they have been out two years or upwards that their decks are scraped so thin and especially their gun decks that they will hardly bear the weight of their ordnance, as it was in the Bristol when she came home, so now for it to now lay a deck the gun deck being not above ½ inch thick in most places. And I am informed the Sapphire is in the same condition and it is a charge to Majesty for have new decks laid, so that if there was an order by the Commander of his Majesty's ships what are bound to the southward from time to time not to permit the boatswain of their ship to scrape their decks above once or twice a going out to clear them of the pitch and tar and all the voyage after (except it be after a caulking) to wash and scrub with brushes, it would prevent the new laying of decks and preserve the plank and sides by washing them with salt water and be more healthful for the men in washing away the dirt and filth with about the cary and other places stinking and all this would as little if not less labour than scraping, and the charge of brushes will not be much in comparison of the charge of new laying of decks which I leave to your Honours consideration.

Description of the *Saphire*
November 1685

Reference: ADM 7/827/102
Transcribed in Proulx 1979: 48-50

	£	s	d
Price of anchors.	169	10	0
Price of blocks tops and pumps	56	0	0
Price of sails ready made	248	19	7
Price of iron guns	684	0	0
Price of shot	76	0	0
Price of powder	255	0	0
Price of gunners stores	234	10	0
Price of boatswains stores	180	0	0
Price of the hull complete from the builder	2 210	0	0
Price of the cordage to rig	169	1	0
Price of the cables	298	16	0
Price of carpenters stores	63	0	0
Charge of the ship completely rigged and stored	4 644	9	7
Charge of the victualling for six months	795	11	5½
Charge of seamens wages for six months	1 053	0	0
Charge of officers wages for six months	360	19	7
Charge of the ship completely fitted for six months	6 853	5	2½

	Tuns	Cd
Weight of cordage to rig	4	14
Weight of cables	8	6
Weight of anchors	4	7
Weight of shot	5	3
Weight of guns	38	0

	Yards long	Inches diam
Yards of canvas	3 230	
Main mast	26	19½
Main top mast	16	11¾
Main top gallant mast	4½	4½
Fore mast	23	17½
Fore top mast	12	8¾
Fore top gallant mast	4	4
Mizzen mast	19	12
Mizzen	5¾	4 3/8

Top mast	0	0
Bowsprit	19	18¾
Sprit top	4 5/8	4 5/8
Mast	0	0
Main yard	20	13½
Main top sail yard	11½	7½
Main top gallant yard	4¼	5
Fore yard	16½	11½
Fore top sail yard	9 1/3	6½
Fore top gallant yard	4	13
Mizzen yard	18	9
Mizzen top sail yard	6½	4½
Cross jack	6½	
Sprit sail yard	13	8¾
Sprit top sail yard	6½	4½

	Feet	Inches
Length by the keel	89	0
Breadth by the beam	26	10
Depth in hold	10	0
Draught of water	12	8

No of cables	6
No of anchor	5
No of blocks	408
No of sails	27
No of boats	2
Barrels of powder	85
No of men	135
No of guns	32
No of tuns	340
Tuns and tunnage	453

Year when built	1675
Master builder	Anthony Deane
Place where built	Harwich

Letter to the Navy Board from Captain Joseph Tosier
On the *Saphire* in Gibraltar
August 29, 1688

Reference: TNA ADM 106/384/368

By the examining and signing my official accounts at several times there do appear to be loss of stores which was committed to the charge of the former and present boatswains, some small things besides the longboats sails and oars of the North Foreland of which I formerly gave you an account and have observed your directions therein, in charging it accordingly on my ships book, which hath happened since I have take due notice thereof (although by accident it hath been lost) and those that have been accessory thereto; and the I may not be guilty of doing any injury to his Majesty's service herein I desire your directions what necessary to be done if in case the man should be discharged.

Letter to the Navy Board from Captain Joseph Tosier
On the *Saphire* in Gibraltar
October 25, 1688

Reference: TNA ADM 106/384/370

What I have to acquaint you at present is only to give an account how far I have complied with my duty in sending muster books even to the 29 of August last, being all that was then due, but you have not taken any notice thereof so yet I am doubtful lest any may have miscarried. I therefore should be glad to be convinced by an acknowledgment from your board of the receipt thereof, I made up two muster books more yesterday, then due, and shall send them by the first opportunity.

I have observed in my instructions the articles which forbids charging of tobacco on the muster and pay books, although there is a column therein for the same, and am informed on the Dragon and other ships of this squadron's books it have been charged, and by a direction from your board I should be very glad to be a partaker in such an order for I presume the purser did not let the people want tobacco and truly I cannot comply with his address in charging the same on the books, unless you are pleased to approve thereof, which I humbly offer unto you in behalf of the poor man who may be at a great loss for want thereof.

Letter to the Navy Board from Captain John Tosier
On the *Charlotte Yacht* in Deptford
June 5, 1689

Reference: TNA ADM 106/392/194

I understand that Thomas Butler my late clerk in their Majesty's ship Saphire hath engaged himself to go to sea with Captain Bokenham in the Happy Return and hath taken with him all my books so that I neither have the ships book of entries and discharges nor any one of my journals – they being all in his possession – whereby to comply with my instructions; so that if your Honours will not be pleased to lay your severe commands upon him for the either delivery of them to me or the leaving them with Mr. Lyddall or otherwise as shall seem most proper in your judgments before he receives his pay for the Saphire, I shall not only, it may be put by my pay, but also under your which will a greater trouble then I can well bear; and attesting that I know he heartily for being one of those that would gladly cut my throat though know no reason he hath for it, I was forced into my cabin with sentinels over me from thence hurried away on board the Dragon that had not time to take a hat or gloves with me so that everything I had was left to the mercy of mine enemies otherwise I should not have been forced to have begged this trouble which now my necessities puts me upon. I humbly beg and hope your goodness will pardon it and not to suffer me to fall wholly under their mercy and for my voyage hath no been only long but very chargeable without any advantage besides the expense of my fitting out so that now if I cannot obtain my pay it must go harder with me than I am willing the world should know; but must and do submit myself to Gods blessed will which I hope will help them that cannot help themselves; thus begging once more your justice and favour in this my restraint and necessity which I hope will not be wanting to your poor prisoner.

Letter to the Navy Board from Captain Christopher Myngs,
The *Saphire* at Yarmouth
September 25, 1689

Reference: TNA ADM 106/391/399

These are humbly to advise your Honours that on the 10th of August we sailed from Elsinore with our convoys but by extremity of weather were separated and forced into several harbors on the coast of Norway where we continued till the 14th of September then weighing with the wind at ENE we completed the fleet excepting the Phoenix with 3 small vessels which were far to leeward at Easterrige where we met on the 22th instant in very bad weather. I lost company with our fleet SE by S leagues from Yarmouth and driving into the herring fleet and making Yarmouth thought convenient to follow my orders for the Roads… Provisions grows very short therefore desired your Honours will be pleased to take care for the victualling of us.

Letter to the Navy Board from Captain Christopher Myngs,
The *Saphire* at the Nore
October 7, 1689

Reference: TNA ADM 106/391/403

These are humbly to advise your Honours of my arrival at the Nore and that on my way the Pilot grounded us upon the edge of the Whiting which hath occasioned a great leak, which I hope the Lords the Admiralty will think convenient to order us to the Ness to stop which shall be forwarded with all expedition to be ready to receive their Lordships further Commands.

Royal Navy Court Martial of Thomas Adams, Pilot, His Majesty's Ship *Saphire*
November 20, 1689

Reference: TNA ADM 1/5253/79

Crime: Running a ship aground
Verdict: Guilty
Sentence: to have his warrant taken away and forfeit pay

At a Court Martial Held on board their Majesties Ship the Assurance on the Wednesday the 20th of November 1689, by order from the Right Honourable the Commissioners for Executing the Office of Lord High Admiral of England Dated the 5th of November 1689.

...

Thomas Adams Pilot being Charged for running their Majesties Ship the Saphir aground upon the Edge of the Whiting. Answered that it was not the Whiting but a place called the Middle ground, to the Southward of the Ness, where the Ship came aground, and saith the cause of his coming aground there was because he remembreth, that some years ago there was no sand, and did not now expect any such shoal water there as he found.

It being put to the Question in the Court whether Thomas Adam Pilot be Guilty of running their Majesties Ship aground out of ignorance, it was carried in the Affirmative, and he falls under the 24 Article of War.

And accordingly the Court doth judge and give sentence. That Adams Pilot shall have his branch[?] at Trinity House, and his warrant taken away, and likewise shall forfeit his pay to the chest at Chatham.

List of gunner's stores on board the *Saphire* by Arthur Bass, Gunner June 10, 1691

Reference: TNA ADM 106/403/112

An account of gunners stores onboard their Majesty's ship Saphire delivered into the custody of Arthur Bass, master gunner of the said ship, 10th June 91

Iron Ordnance	Minion	Twelve
	8 lb bullet	Sixteen
	3 lb "	Four
Carriages for	Minion	Twelve
	8 pounders	Sixteen
	3 pounders	Four
Round Shot for	Minion	470
	8 lb bullet	640
	3 lb "	160
	1 lb "	400
Double Headed	Minion	42
Shot for	8 pounders	72
Boxes for " 3	Saker	50
	Granadoes	50
	Fuses for "	66
Ladles &	Minion	2 & 3
Sponges	8 lb bullet	3 & 4
	3 lb bullet	1 & 2
	Ladle staves	Six
Cases of Wood	Minion	14
	8 lb bullet	20
	3 lb "	5
	Funnels	1
	Snaphance muskets	40
	Musquetoons	3
	Musket prods	6
	Blunderbusses brass	2
	Pistols	10 pairs

Corn Powder	51 barrels
Match	250 cwt
Long Pikes	11
Short "	11
Bills	4
Hatchets	15
Swords	20
Hangers	19
Musket Shot	375 cwt
Pistol "	34
Sheet Lead	164 cwt
Aprons of Lead	32
Crowes of Iron	32
Linch Pins	10 pairs
Sledges	1
Great Melt Ladle	1
Small "	2
Bar Iron	100
Tackles Blocks	13 pairs
Cartouche boxes w belts	39
Bayonets with frogs	37
Port Tackles	18
Rope Sponges	32
Bedds	37
Trucks – Ordinary	3 pairs
Trucks – Ent__	3 pairs
Saker and Minion	[Leaven?]

Tampions small	140
Formers small	Five
Budge barrels	One
Tanned hides	Five
Baskets	Six
Spare Hoops	One
Tallow	24 cwt
Ordinary Lanterns	Two
Dark "	One
Muscovy Lights Ord.	One
Ent__	Two
Wad Hooks	Five
Hand Crow Levers	30
Powder Horns	36
Linstocks	Eighty
Hand Screws	One pair
<u>Cordage</u>	
4 ½ inch	99 fathoms
2 inch	One coil
Port Tackles	One coil
Britchings	30
Tackles	66

Letter to the Navy Board from William Stigant, Master Shipwright Portsmouth
December 1, 1691

Reference: TNA ADM 106/412/201

I am informed by the carpenter of the Saphire that her bottom is very thin in so much that it is doubted some of it must be shifted being not fit to bear a sheathing, she doing whereof will be hazardous on the careen this winter time, wherefore if your Honours shall think it so convenient I believe it would be best to dispatch the Crowne Prize and launch her and bring the Saphire into the dock ahead of the Montague, where we may with more convenience (If occasion) shift what is amiss and sheath her to launch the spring [tide] following. In all which I submit to your Honours judgment to direct as you shall see fit.

Letter to the Navy Board from Thomas Willshaw, Commissioner Portsmouth
December 22, 1691

Reference: TNA ADM 106/412/214

…I am sorry to find your warrant for shortening the Saphire's masts after her lying upwards of 90 days in harbour, having received orders from the Right Honourable the Commissioners of the Admiralty for hasting her out will all exposition and she is wholly ready for sailing, and now this work will delay her dispatch, which I was so much a stranger to that I know not one word of it til your warrant came to my hand, which if we had but timely enough, it might have been done, and the ship as forward as she is now.

Letter to the Navy Board from Captain Benjamin Hoskins
On the *Monk* in Plymouth
January 17, 1692

Reference: TNA ADM 106/420/7

In pursuance of orders from the Right Honourable Lords Commissioners of the Admiralty, being a cruising with their Majesties ships Monke and Saphire, between Guarnsey and St. Malloes, we stopped an ebb in Sandoron Bay, it blowing hard at NE & ENE, in expectation of some of the enemies ships which accordingly happened for before we had been there an hour, appeared 30 sail of light merchant ships, two men of war, a [Senale?] privateer, and some of the merchant men from 22 to 16, and one of six guns, at sight of which I immediately weighed, it being then about 4 o'clock, but the Saphire cut and left his anchor and about half a cable behind him, by five I was up with the two men of war and one merchant man that lay ready to receive me, whom I engaged half an hour or more at with time the Saphire came up with me and likewise used his utmost endeavours to destroy the enemy, but growing night they bore down amongst the rocks between Jersey and St. Malo and we standing to sea met with two of their fleet that were separated whilst we engage, the which we took, and have brought into Plymouth, myself one, and the Saphire the other, mine is a vessel of about 100 tuns and 16 men, our prisoners, only in her ballast bound for Rochele, from Hobbledugras, the other was a flyboat in the same fleet. The next morning, viz., on Thursday last, I met with a privateer of 30 guns and 6 petreros, as I am informed and decoyed him, till he came within shot of us both. I gave him a fine dose as likewise did the Saphire, we chased him from North to West wind at E & ESE, but he so beat us in sailing, as I never met the like, in these passages. I have only 3 men wounded by the enemies small shot and one blown up by some collers of bandoliers, as also my master has received some damage in his face by powder. I have only to add that since I went to sea I never was in such a condition for want of seamen. Although I have 300 eaters on board one, I may safely say, I have not 20 men in my ship besides officers that ever saw a shot fly in anger before this time, and further that at our going to engage I was force to spare Captain Killigrew 10 marine soldiers otherwise he could not work his ship, he having but 90 men aboard, officers and boys included. Whereas in my last I gave your honour and account that these is but 3 of the prizes men returned, I desire to know, whether they are ordered any other ship or whether I may put a D upon them in the Monkes books.

Letter to the Navy Board from Captain Hovenden Walker
On the *Saphire* in Dublin Bay
April 7, 1694

Reference: TNA ADM 106/457/279

I have according to what you were pleased to order in your last, laid out the money to supply my surgeon with three months necessaries and have sent the account which I suppose will by my friends be brought to the Board.
I have also to acquaint your Honours that my ship is in a very weak condition having five futtock riders and two beams in the hold broken, and that she makes a great deal of water when she is at sea in very moderate weather, though when at anchor she is tight. I have given notice of the defects also to their Lordships of the Admiralty, and hope she will be ordered into a dock to be very well searched for as she is now, tis dangerous to send her to sea. This I thought myself obliged to inform your Honours.

Letter to the Navy Board from Henry Greenhill, Commissioner
Plymouth
May 27, 1694

Reference: TNA ADM 106/449/227

I have received your Honours' of the 23 instant, with an enclosed order to the respective officers for surveying the Saphire and Virgin Prize, and refitting her that is in the worst condition, whose men are to be turned over to the Ruby and Anglesey, which I will deliver in one time, when the said ships arrive here, judging it necessary to keep the said order with all the secrecy possible, lest the men get notice of the design to remove them and so make their escape, as in such cases they generally do. I have also your bill of imprest to Mr. Addis, for three hundred pounds, and shall attend the orders of the Right Honourable the Commissioners of the Admiralty for the disposal thereof.

Admiralty Orders to Captain Thomas Cleasby
December 1695

Reference: TNA ADM 2/20/210-212
Transcribed in Proulx 1979: 10-12

You are hereby required and directed to make all possible dispatch in the getting the ship under your command in a fitting condition to proceed to Newfoundland with respect to provisions, stores, and then with the first opportunity of wind and weather proceed to Waterford in Ireland, and there take under your care and protection fifteen ships which the merchants inform us lie ready there or any others which shall be ready and bound to Newfoundland, and without loss of time proceed with them and convoy them in safety thither.

You are to inform yourself upon your first arrival at Newfoundland of the present condition of the French, the number of their fishing ships and strength of their forts in those parts, and to govern yourself accordingly in the defence and safeguard of his Majesty's subjects and their ships under your care proceeding according to your discretion in opposing or making any attempt against the French, whether at Sea, or in any of the harbours of Newfoundland, either by taking, burning or destroying any of their ships or forts as it shall be in your power, so as never the less you do not imprudently expose the ship under your command or any of the vessels of his Majesty's subjects under your convoy.

You are to be aiding and assisting to the Admirals, Vice Admirals and Rear Admirals of the respective ports and harbours in Newfoundland from time to time as need shall require, in preserving of peace and government amongst the seamen and fishermen there, and in apprehending of offenders.

You are not to take into his Majesty's ship under your command or transport to Newfoundland any seamen or any other persons except such as do truly belong to his Majesty's ships.

You are not to take on board the ship under your command any sort of fish either by way of merchandise, freight or otherwise, except what shall be for the use and spending of your ship's company.

So soon as you shall be out of the Channel you are (for the better enabling you to execute these orders) to put your ship's company to short allowance of victuals of six to four men's allowance or otherwise, as the necessity of

the service shall require assuring the seamen they shall be paid for the same.

You are to give convoy to any other ships or vessels of his Majesty's subjects or his allies which you shall meet with bound your way as far as your way shall lie together.

And you are to continue at Newfoundland guarding the fishery there, till you shall be joined by another ship, which will bring you order for your further proceedings.

Letter Concerning the Outfitting of *Saphire*, 1696

Reference: TNA ADM 1/3577/691
Transcribed in Proulx 1979

Understanding by your Honours' Order of this day date that his Majesty's ship the Saphire is ordered for Newfoundland. We have written by this post to Captain Greenhill to examine what she is in want of to fit her for the said voyage and to cause her to be furnished therewith according to the Rules of the Navy, but not fishing gear, brass box compasses or French colours being allowed for such voyages she will have none of these things delivered to her, nor a ship lantern, unless she is to be a Commodore, none being allowed to private ships.

Copy of a Letter from Captain Thomas Cleasby
March 11, 1696

Reference: NMM ADM A/1828/184

This comes to own the receipt of yours with the enclosed orders from my Lords of the Admiralty, which God willing I will take care to execute, but desire you will be please to let their Lordships know, that if they will please to give their order to the Navy Board to allow me the things mentioned below they will be of great use to me in my voyage and enable me the better to perform their commands.

A suit of French colours
A brass box compass
A spare topsail yard
Some stuff to give the ship a pair of boot hose tops in the country she being now very foul
A top light, as also some fishing trade for the ships company

Directions to Sieur de Brouillan, Governor of the Island of Newfoundland
April 21, 1696

Reference: Coll. Moreau St. Méry, Civil Registers, Louisbourg, Vol. 5/F, 389
Transcribed in Richard 1901: 94

Memoir of the Minister to serve as directions to Sieur de Brouillan, Governor of the Island of Newfoundland, regarding the action to be taken against the English settlements on that island. His Majesty has given orders to d'Iberville to proceed to Plaisance with two ships, "L'Envieux" and "Le Profond," taking 60 Indians from Acadia and 80 Canadians, to form part of the expedition. He is to await the arrival of M. de Bonaventure and the Malouin ships, before beginning operations. M. d'Iberville is to operate on land and he himself on sea. He is to add 100 men to the 140 D'Iberville will have. D'Iberville is to be under his orders, but as he is a man of great ability and experience, must allow him to act freely. If the enterprise should succeed, they are to take the population on board for transport to England. He must treat them with consideration and humanity. Should he return to France, he is to hand over the government to D'Iberville, who holds a commission in that behalf.

Letter to the Navy Board from Captain William Eyton
On the *Saudadoes Prize* at Spithead
May 5, 1696

Reference: TNA ADM 196/485/064

This day received orders from the Lords of the Admiralty for my proceeding for Newfoundland and remain there during the fishery and afterwards to proceed with such merchant ships as are bound for Cadiz and the Streights as high as Barcelona. I desire your Honours will be pleased to give orders for our victualling, having but three weeks aboard and how many months stores the boatswain and carpenter must be supplied withal. I have not yet received the beds.

Letter to the Navy Board from Captain William Eyton
On the *Saudadoes Prize* in Plymouth Sound
May 21, 1696

Reference: TNA ADM 196/485/064

This day we arrived here, with five sail of ships under our convoy bound to Newfoundland, and understand there is lying in Cattewater about 14 or 15 sail bound thither which expect all out by tomorrow evening. We have not received the beds for the men.

Letter to the Navy Board from Captain William Eyton
On the *Saudadoes Prize* in St. John's
July 27, 1696

Reference: TNA ADM 106/485/086

This being the first opportunity that has offered for my writing since our arrival here which has been for a month, having five weeks passage with the ships under my convoy to acquaint your Honours of my joining with the Saphire who between us have taken three small prizes. The French are very strong and by report designs to attack us, we have secured this harbour and Ferryland to the best we can and are now about securing others, the French prisoners I have sent to Placentia, but the boat not yet returned cannot give any account what English prisoners be there, this comes by a small bark laden with train and bound to Bristow, and about three weeks hence will be coming for England another which hope by to give your Honours a more ample account and then will send our monthly books.

Letter to the Navy Board from Lieutenant John Clifton
On the *Saudadoes Prize* in St. John's
September 28, 1696

Reference: TNA ADM 106/486/104

My last to your Honours was by the way of Cadiz wherein gave account how Captain Eyton went from on board his Majesty's ship Saudadoes Prize on Tuesday the 8th of this instant with his pinnace to view a fleet of a ship which was before our harbour which proved French who intercepted his boat, and on the 12th instant took the Bay of Bulls with nine sail of ships, Captain Cleasby being there, in the Saphire, endeavoured to defend the port but could not withstand their force, which made him set his ship afire, after some small stay at the Bay of Bulls, taking what plunder they could from thence and the ships with about forty of the inhabitants and others, they went for Ferryland and met some resistance, but the place was not of strength enough to withstand them, they soon took the place, and fourteen ships ready laden and several other place they have taken but the particular account of their actions I cannot yet understand but for certain, all the south part of the land is taken, we are in daily expectation of ships from England, the weather and the enemy have hindered the merchant ships from loading, I am apt to believe will not be ready to sail until the middle of the next month, our provisions growing short, not having more than two months full allowance, nothing else but shall endeavour faithfully to observe the instruction given my predecessor Captain Eyton or whatever else your Honours please to send.

Letter to the Navy Board from Lieutenant John Clifton
On the *Saudadoes Prize* in St. John's
October 3, 1696

Reference: TNA ADM 106/486/113

My last to your Honours was in a ship bound from Carbuneer to England since have received a farther account how the Harbours was taken to the southward. After taking Ferryland, the Governor of Placentia marched overland with three hundred men. He took Aquafort, Fermeuse and Renoses, but the ships in the last three ports put to sea, the night before, and now the enemy are at Ferryland, who have taken all the guns mounted ashore aboard and ready to sail with their ships the prizes, I am informed by the masters of ships which they took, who made their escape hither, that the number of the enemy are two thousand six hundred and thirty and designed next for this harbour, who likeness says, they have sent a ship for France, for a reinforcement, but what latitude to meet cannot learn. And further gives account they have put the prisoners they have taken on board a vessel in order to transport them to England.

Letter to the Navy Board from Daniel Gwyn
Falmouth
October 19, 1696

Reference: TNA ADM 106/487/349

Yesterday arrived a ship from Ferryland in Newfoundland with 170 seamen and passengers. They came out 276 persons on board said ship but on the 17th meeting 7 of our men of war near Scilly they imprest about 100 seamen from them, they had 16 days passage and report that on the 11th 5 sail of French privateers from 50 to 40 guns, 2 small frigates and 2 fire ships came into the Bay of Bulls and attacked his Majesty's ship Saphire there at anchor, which the captain for some time defended but was constrained to fire that she might not fall into the enemy's hands then they took the place, and in the bay 9 ships from thence they visited several other ports as Petty Harbour etc. and on the 20th came before Ferryland, on the 21st they made themselves masters of the place and took in that port 14 sail more, they took in all on the coast and in the ports 33 ship of all, 10 belong to Barnstaple and places adjacent, the ships which were in Aquaforte, Fermouse and Renouse took the alarm and put to sea but some without their guns most left behind a good part of their cargo.

The ships had been before St. John's before they made descent on the Bay of Bulls, but the wind did not then leave them to attack that place, however they carried off prisoner the Commander of the Soldadoes which lay in that port, the captains ship hoping them English men of war from their colours etc. went off in his pinnace and was surprised, they gave the English four ships to transfer themselves to Old and New England of which this arrived is one, but would not suffer them to sail for St. John's which place is reported to have several good forts and 2000 men in arms for defense, when they left Ferryland, the houses in that place, Bay of Bulls and all along the coast was on fire.

They had for provisions only 3 pounds bread to a man, fish and some flour, yet only one died in that passage to this place.

***London Gazette*, 22 October 1696**
Issue 3230, Page 2
[https://www.thegazette.co.uk/London/issue/3230/page/2]

Falmouth, October 19

A vessel is come into this port in 16 days from Newfoundland, having on board divers passengers; who give an account, that on the 11th of the last month, 7 or 8 French privateers, some of them carrying from 40 to 50 Guns, came into the Bay of Bulls, and took or destroyed several of our fishing ships; the Saphire, a Fifth-rate, one of their convoys, fought the enemy till she was disabled; and then the Captain set the ship on fire, and retired with his men on shore; The French landed, and destroyed the settlement there; and afterwards did the like at other Places; But they had not yet attempted St. John's; the *Soldadoes* Frigat, the other convoy, was in that harbour; the Commander where of going off in his boat, was taken prisoner by the French, who came in with English colours. They had cast up several works at St. John's, and of seamen and others, there was 2000 men in arms to defend them.

Royal Navy Court Martial of Thomas Cleasby, Captain, His Majesty's Ship *Saphire*
October 26, 1696

Reference: TNA, ADM 1/5257/49

Crime: Loss of ship by setting on fire
Verdict: Acquitted

At a Court Martial held onboard his Majesty's Ship the *Monmouth* the 26 of October 96

Present
Captain John Munder Commander in Chief of His Majesty's Ships and Vessels in the Rivers of Thames and Medway

Presiding
Captains Gabrill Hughes, Henry Lumly, James Underdowne, William Passinger, Thomas Buttler, Robert Holmes, Robert Arris, James Woodden

All duly sworn pursuant to a late Act of Parliament concerning the Commissioners of the Admiralty

Inquiry being made into the loss of his Majesty's Ship the *Saphire* which was engaged with the enemy at Newfoundland and set on fire by Captain Cleasby Commander of her and several witnesses being thereupon examined under oath.

It is the opinion of this court, that Captain Thomas Cleasby falls not under any Article. But that he has done his duty, and also his officers to the utmost of his and their powers, in the defence of the said ship *Saphire* against the enemy. But the enemy overpowering them, and they not able to defend her any longer, thought it to be more honourable to burn her themselves, then to admit her to be carried away by the enemy. Therefore this Court doth acquit the said Captain Thomas Cleasby accordingly.

Letter to the Navy Board from Lieutenant John Clifton
On the *Saudadoes Prize* off Cadiz
November 11, 1696

Reference: TNA ADM 106/486/170

These are to acquaint your Honours that I sailed from St. Johns Newfoundland on the 22nd of October 1696 with thirty two sail of merchant ships thirteen of which left us in our passage who were bound for Portingall the rest I convoyed safe into Cadiz. The greater part of which went in, the remainder being bound for the Streights so shall proceed with them to their several ports, so high as Barcelona, according to the Lordships orders. We have on board one month's provisions for the complement.

Letter to the Navy Board from Paul Methuen
Lisbon
January 8, 1697

Reference: TNA SP 89/17/135/256

This day came in here the Robert and Henry Captain Shettlesworth Commander in 19 days from Carbonera in Newfoundland, who bring advice that the Governor of Plasencia with some French and a greater party of your Canada Indians came overland took St. John's the 3d of December and that the said governor had taken up his residence there for the present, intending in a little while to go for France in a frigate called the Betty formerly belonging to Bristol, and the French Governor of St. Pierre will remain there in his place, the French have since this taken another harbour called Portugal Cove five leagues from Carboneer, which with the former success has so frighted the planters all along the coast, that most of them leave what they have and make their escapes either into the woods, or by shipping as they can. This ship brings a great many of them as passengers, and as she has had a good passage, and this account is likely to be the first that will get to England, I have thought it absolutely necessary to send this by express with all possible speed to overtake our English post which went hence the fifth instant.

Letter to the Navy Board from Joseph Bully
Dartmouth
January 10, 1697

Reference: TNA ADM 106/486/191

This day is come into this port a vessel from St. John's in the Newfoundland having brought from thence 230 men, women and children, the inhabitants of that country who left said place on the 16 of the last month when the French were in possession of it. We haves sent affidavits from hence to the Secretary of State of the manner of it (viz.) that the French in last to the number of 350 and 50 Canada Indians, commanded by the Governor of Placentia and Canada; came from Placentia in ships and boats to Bay Bulls and thence to Pitti Harbour by land; and from thence marched in a body to St. John's. The inhabitants of which place, being informed, that the French were not above 16 men, sent out a party of 84 to the relief of Pitty Harbour but contrary to their expectation, on the 18th November not a mile from St. John's as they were marching up the south hill, met the French coming towards them, to the number aforementioned. With whom they engaged half an hour, had 34 men killed and several wounded. The rest retreated to St. John's, who with the inhabitants, men, women and children entered into a small fortification, which they defended three days. But wanting ammunition and provisions, were forced to surrender on articles of capitulation, they have burned and destroyed all the place and sent out parties to do the like to the northern harbours. On the 8th of this instant, this vessel met the Canary fleet, 20 leagues west from the Lizard.[7]

[7] The Lizard is a peninsula in southern Cornwall and the most southerly point of the British mainland.

Letter to the Navy Board from Captain Thomas Cleasby
On the *Mary Galley* in the Downs
August 9, 1698

Reference: TNA ADM 106/416/142

In the year 1696 when I commanded the *Saphire* in Newfoundland I had the misfortune to fall foul of a rock in the night and struck off 50 foot of my false keel and 20 foot of the main keel some of it within the garboard strake so that I was necessitated to careen her which I did at my own charge but through my misfortune afterwards having lost all my books and papers disabled me from bringing in any regular account into the office but since that I am now arrested and at law with the owners of small retaken vessel which I was obliged to employ to fetch me materials from St John's to Fermouse and afterwards to cruise before the said harbours that I might not be surprised by the enemy whilst the ship was upon the careen and having lately met with some person and paper which I hope will be very good vouchers for me as to some part of my charges, I therefore humbly pray your Honours leave for bringing in an account which I shall leave to your Honours wisdom and justice.

Letter to the Navy Board from Captain Thomas Cleasby
Spithead
March 7, 1699

Reference: TNA AMD 1/1588/19

... and now I humbly pray the will please to lay me case before my Lords of the Admiralty in relation to the *Saphire* which I was forced to burn in Newfoundland in the year 1696 after which being on shore with the few men I had left I had the good fortune to oblige the enemy to a capitulation by which all my men and officers and all other his Majesty's subjects that were willing (myself and Lieutenant only excepted) had ships and necessary provision allowed to come for England, so that we were carried to France to our great loss of time and expense of money and after my return being paid but till the day the ship was burned notwithstanding my great loss in the said ship and being informed that Capt Will Eaton at the same time carried to France hath received pay for all the time therefore I humbly hope their Lordships will please to consider me....

Oath of Thomas Cleasby in support of the claim of Mary Kirke Benger to the former Sir David Kirke properties in Ferryland
March 23, 1708

Reference: TNA CO 194(4)/63/212
Transcribed by Peter E. Pope
[www.heritage.nf.ca/articles/exploration/thomas-cleasby-deposition-1708.php]

Thomas Cleasby - maketh oath that in the year 1696 he, this deponent, being then Commander of His Majesty's Ship the *Saphire* and sent convoy to Newfoundland, where this deponent continued cruising from time to time and rendezvousing at Caplin Bay and Ferryland till September in the same year, at which time the French attacked the English settlements both by sea and land, and burned and destroyed all of the country, some few places to the northward excepted. And this deponent saith that Ferryland, his place where he this deponent then was, was all consumed to ashes and in particular diverse houses, stages, cookrooms, tenements and other conveniences built by and belonging to Mr. David Kirke. And the deponent farther saith that he, this deponent, was carried prisoner to France. All, or the most part, of the inhabitants of Ferryland were taken and carried prisoners to Placentia, in which number were Mr. David Kirke, his wife and family. And this deponent farther saith that in the year 1697 he, this deponent, being then Commander of His Majesty's Ship Lime, was sent again to Newfoundland, in company of a squadron of men of war and land forces, to recover the country out of the hands of the enemy. But before they arrived the enemy was retired, after having made all the spoil they should. And this deponent further saith that sometime in the summer of the year 1697, Mrs Kirke, now Mrs Benger, came into the harbour of St. John's, where this deponent saw her, and she told this deponent her husband died a prisoner and that she herself could not, nor indeed could any of the rest of the inhabitants, as this deponent believed, return to their settlements at Ferryland sooner, the country being in sad confused and lamentable a condition. And this deponent further saith that in the year 1698, to the best of this deponent's remembrance, the Parliament passed an Act to Encourage the Trade to Newfoundland, in which act the commanders of the men of war are empowered to determine all differences concerning fishing rooms etc., which act this deponent refers. After the passing of which act this deponent was, in the year 1699, as this deponent remembers, again commanded to Newfoundland, being the Commander of His Majesty's Ship the *Mary Gally*, with directions to put the said act of Parliament in execution, which he did together with Captain Andrew Leake, Commander of His Majesty's Ship the Hampshire. And amongst the rest of the matters determined there, Mrs Kirke, late wife of Mr David Kirke, now called Mrs Benger, prayed relief against one Cade, a master of a ship, who had unjustly possessed himself of a fishing room at Ferryland called Pool

Plantation, which for many years together and until the aforesaid attack of the French, had belonged to her late husband, Mr David Kirke, and was left to her by her said husband. And thereupon a court was held and witnesses summoned, sworn and examined; and after full inquiry and searching into the matter, it was found, by undeniable evidence, that the said room did belong to the said Mrs Kirke. Upon which, Captain Leake ordered him, this deponent, to go or send to Ferryland, to give the possession of the said fishing room, which he this deponent did, accordingly. And as he, this deponent, was informed and did verily believe, hath ever since peaceably enjoyed the same and thereon yearly built all necessary houses, stages, cookrooms, train vats and other conveniences, till the last year, when she was interrupted, as this deponent hath therein been informed, in the enjoyment thereof.

Jurat 23 die martii 1707 [signed] Thomas Cleasby
[Sworn 23 day of March 1707 old style, 1708, new style]
Coram me [Before me] [signed] Robert Downer

Deposition at a Board Hearing Regarding the French Invasion of Ferryland
1708

Reference: TNA CO 251/254
Transcribed in Axis Consulting 1999:13-14

Mr. Simon Cole, Mr. John Alberson, Mr. Palmer and other merchants trading to Newfoundland, attended the Board, bringing along with them two Captains of Merchant Ships who had been there at the time when the French took Ferryland. The name of the one is Edward Fortune of Sidmouth in Devonshire who was then admiral of the Harbour. The others name is Bond, who was Vice-Admiral. They were in all thirteen sail of English ships, and three prizes which had been taken in their way thither by the Saphire. They made about three hundred men. The French having appeared before the Harbour's mouth three or four days before they attacked it and been forced away by a storm, gave them opportunity to fortify the Harbour, which they did by taking out the guns of their ships (about thirty) and placing them on several forts and drawing three cables across the harbour mouth. But the French landed at a distance from the four hundred on our side and three hundred on the other. After some dispute with Captain Claseby, Commander of the Saphire, who kept a pass on a fort at a little distance they forced him to capitulate, and when they became master burnt and destroyed all. And kept them Prisoners from ___ to ___ then gave them a small vessel to bring them away. The French ships that did this were, the Pellican of fifty-six guns, the Diamond, the Louis, the Philip, and some others, all belonging to St. Malo. The Pellican was the only man of war amongst them. The other captains knew nothing of the design till the Pellican and the Diamond (who arrived last) brought orders for it. The captains said that Placentia is now made very strong so that there is no coming at it but in winter. The Merchants that brought them to the Board promised to draw up a full memorial of all these things and of what they desired thereupon and bring it to the Board in a few days.

Oldmixon, John. 1708. *The British Empire in America, Containing the History of Discovery, Settlement, Progress and State of the British Colonies on the Continent and Islands of America.* London: John Nicholson et al. Volume 1: pp 12-13

… the Trade of which consists in the Fishery, one of the most beneficial in the World, and yet it has been miserably neglected. Does it not look something like a Paradox, that we who are Master of the Sea, should not be Masters of Trade, and especially of that Trade, which is by Right our own and that the French, the meanest Nation in the World with respect to Commerce, considering their Advantages, should rival us in so considerable a Branch of our Traffic? 'Tis pity, we who have driven them out of the British and the Mediterranean Seas, should not clear the Atlantic of them, and be entirely Masters of our own Fishery, which would be so advantageous to the Public in general, and private Men in particular: For besides the Encouragement it gives to Navigation, the Seamen that it breeds and the Trades that it maintains, it increases the National Stock wonderfully; for let a Ship of 150 tuns, manned with 20 Hands make the Voyage with nothing but Victual and Fishing Tackle, she shall bring 3000 L worth of Fish to Market in a good Year; and that's a certain Gain to the Kingdom, as well as to private Men.

…And if the former [English] did rightly consider the vast Advantages of this Trade, they would spare no Cost to establish it on so firm a Foundation, that all the Nations of Europe could not hurt them in it. They would think no Expense too great in building Forts, and fortifying the Harbours, so that they may command the Fishery in them. They would gladly be at the charge of a Squadron of Men of War to protect our own Fishers, and hinder others from fishing, and if they always lay there, we might easily in a few years engross the Trade to our selves, drive the French out of the Island, and the Neighbouring Continent; which, tho it may seem to be more easily protected than 'tis to be effected, is s very feasible Design, and what doubt not the Wisdom of the Nation will take into Consideration. Whenever this brought to pass, the Banks of Newfoundland will be more valuable to the English, than the Mines of Mexico and Peru to the Spaniards.

Volume 1: 141-142

The French in September 1696, with 6 ships of war, the Pelican, the Diamond, the Count de Thoulous, the Vendange, the Philip and the Harcourt, with five ships and other vessels attacked the several harbours, etc., near Cape Spear, met with the Sapphire, an English man-of-war, commanded by Captain Cleasby, to whom they gave chase, but he got safely into the Bay of Bulls, where he landed and fortified the place in the best manner the short time of it would allow of. The English who lived in the bay came to his

assistance but on the approach of the French they all ran away. On the 11th of September, the whole French squadron came down upon the Sapphire and fired with the utmost fury. Captain Cleasby made a gallant defence for some hours, having placed all his guns on the side of the ship next the enemy. The French at the same time made a descent, and having driven the men that were ashore into the woods, attacked the Sapphire on all sides. The captain finding it was impossible to maintain the ship any longer, retired with his officers and thirty-five men into the woods and set her on fire. Forty Frenchmen boarded her, thinking to extinguish it, but were all blown up, by the fire reaching the powder room. One hundred more of the Sapphire's crew getting ashore, made the best of their way to Ferryland, but were intercepted by the enemy, and all taken prisoners. Captain Cleasby and his company gained the harbor where he did his utmost to defend the place against the enemy, who now came to attack it. The 21st of September they landed 600 men. After some firing, the English surrendered. The French destroyed all the English settlements except St. John, Carbonear and Bonavista.

Pierre François Xavier de Charlevoix. 1744. *Histoire et description générale de la Nouvelle France.* Paris: Pierre-François Giffart. Translated as *History and General Description of New France*, 1866, by John Gilmary Shea. New York: John Gilmary Shea. Volume 5, pp. 35-37.

Such was the situation of the two European Colonies which divided the island of Newfoundland, when Mr. d'Iberville proposed to the court to bring all under the king's jurisdiction. As his Pemquit expedition had detained them longer on the coast of Acadia than he had expected to be there, he did not reach Placentia til the twelfth of September. Mr. de Brouillan, who according to their agreements was to wait for them there till the end of August, had sailed three days before with the king's ship Pelican, and eight St. Malo vessels, the Count de Thoulouse, the Philippeaux, and the Diamond, three corvettes and two fire-ships, to proceed to attack St. John. This was the English headquarters, and the port where the King of England's vessels generally entered.

Although he had certain information that the English were aware of his project, he did not think it his duty to use dispatch and attack the coast where they were less on their guard, and preferred to await a favorable wind to proceed to St. John. But as he rode ten or twelve leagues outside the harbor, the weather became so bad, and the sea so stormy, that the ships that accompanied him were for a long time driven from him. They rallied at last seven or eight leagues from land, and it was resolved to delay entering the harbor no longer.

He was only cannon-shot distant, when he seized a sloop, apparently coming out to observe, and on board he found the Sieur Ites[8], commandant of an English ship of war called "Le Soldat de Prise".[9] From this officer he learned that there were forty ships at St. John, some carrying from eighteen to thirty-two guns mounted. This information did not produce any change in his plans, and he prepared to land at the entrance of the harbor, at nightfall, but having been carried six leagues south by the tide, in spite of all his efforts to keep his position, his plan failed.

Other currents then took him, without his perceiving it, opposite a bay called Baboul, a corruption of Bayeboul,[10] to which he had two days previously dispatched the Philippeaux and the Compe de Thoulouse to seize that post

[8] Captain Eyton.
[9] The *Saudadoes Prize.*
[10] Bay Bulls.

and capture the Zephyr,[11] an English ship of war, and two merchantmen at anchor there. But these two vessels having failed to approach the land, rejoined Mr. de Brouillan. That governor wished to try whether fortune would not be more propitious to him, and in fact entered the bay under a light wind, which fell entirely while he was maneuvering to attack the Zephyr.

The fire of five small forts, which he then received, did not prevent his ordering two landing parties, one of the left under his nephew Mr. de St. Ovide, and the other on the right under the command of the Sieur de l'Hermite, Major of Placentia. Both succeeded: L'Hermite drove the English from two batteries, which galled the French ships considerably; St. Ovide captured two forts into which the captain of the Zephyr had retired with the greatest part of his crew, and a considerable number of settlers who fled to the woods.

Mr. de Brouillan then wished to return to St. John, passionately desirous of capturing it without d'Iberville's assistance, but a misunderstanding between him and the St. Malo men obliged him to steer to Forillon,[12] which he carried sword in hand, in spite of the vigorous resistance of Sieur Claby,[13] captain of the Zephyr, who was made prisoner with all his men. Aiguefort, Freneuse and Rognouse,[14] cost him only the trouble of a march overland, for the found these posts deserted. He declared that had the St. Malo men obeyed his orders, they would have captured a great many merchantmen, which were in all these ports. Nevertheless he took about thirty in this expedition, after which he returned to Placentia, less flattered by these minor successes, than mortified at his failure to take St. John, and much incensed at the St. Malo men, who in return complained loudly of him.

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[11] The *Saphire.*
[12] Ferryland.
[13] Captain Cleasby
[14] Aquaforte, Fermeuse and Renews.

Relation de la prise de Saint-Jean (Terre-Neuve) signée Monbeton de St. Ovide de Brouillan
18 December 1696

Reference: LAC, MG1, C11A, vol. 14, folio 356

Il ne m'a pas été possible de concevoir par quelle manœuvre tous les navires se trouvèrent quasi par le travers de la baye de Bayboul ou j'avais détaché depuis deux jours le Phelipeaux et le Comte de Toulouse pour prendre ce poste et le navire de guerre le Zephir qui était dedans avec neuf bâtiments marchands.

Ces deux vaisseaux niant pu accoster la terre je me résolus de faire moi même cette expédition afin de retourner au plutôt devant Saint-Jean ou j'envoyai les vaisseaux le Diamante et le Vendôme afin d'être instruit de ce qui pourrait sortir ou entrer dans ce port ou l'on attendait une flotte de vingt cinq navires marchands convoies par les vaisseaux le Dredorade de soixante et dix canons et l'Oxford de cinquante quatre cela fut asses mal exécuté puisque le même soir nos deux vaisseaux étaient prêts d'entrer dans bayboul lorsque je leur envoyai un second ordre d'exécuter celui que je leur avais donné.

J'entrai dans cette Baye avec un asses petit vent et qui calma dans le temps que nous nous disposions d'aborder le vaisseau le Zephir ce qui fit que nous essuyâmes le feu de cinq petits forts des ennemis jusqu'a ce qu'ayant fait faire deux descentes, l'une à tribord commandée par Mr l'Ermite qui chassa les ennemis de trois batteries de canon qui a nous bâtaient de ce côte la et l'autre à bâbord commandée par monsieur de Saint-Ovide mon neveu qui ne manquait pas moins de fermeté et de vigueur que lui pour s'emparer des deux autres forts qui étaient à bâbord ou le capitaine du Zephir s'était retiré avec la meilleure partie de son équipage et des habitants âpres nous avoir fait tirer plusieurs bordes de son canon et mis le feu dans son navire. Les bois favorisèrent la retraite d'une partie des anglais qui défendaient ce port qui nous resta sans beaucoup de difficulté.

VITA

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EDUCATION

2019 PhD candidate, Historical Archaeology Program
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2017 Professional Certificate in Heritage Conservation Planning
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Department of Anthropology, Texas A&M University

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Department of Archaeology, Simon Fraser University

SELECTED EXPERIENCE

2009-2019 Senior Advisor, Cultural Heritage Policies and Legislation
Parks Canada, Gatineau, Quebec

2005-2007 Archaeological Licensing Officer and Marine Heritage Advisor
Ontario Ministry of Culture, Toronto, Ontario

2004 Teaching Assistant, Quarterpath Field School, Colonial Williamsburg

2002 Archaeologist, Parks Canada St. Lawrence River Survey, Quebec

1999-2001 Archaeologist, Pepper Wreck and Angra Bay Shipwrecks, Portugal

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